COMMERCE AMERICA

U.S. Department of Commerce / February 14, 1977

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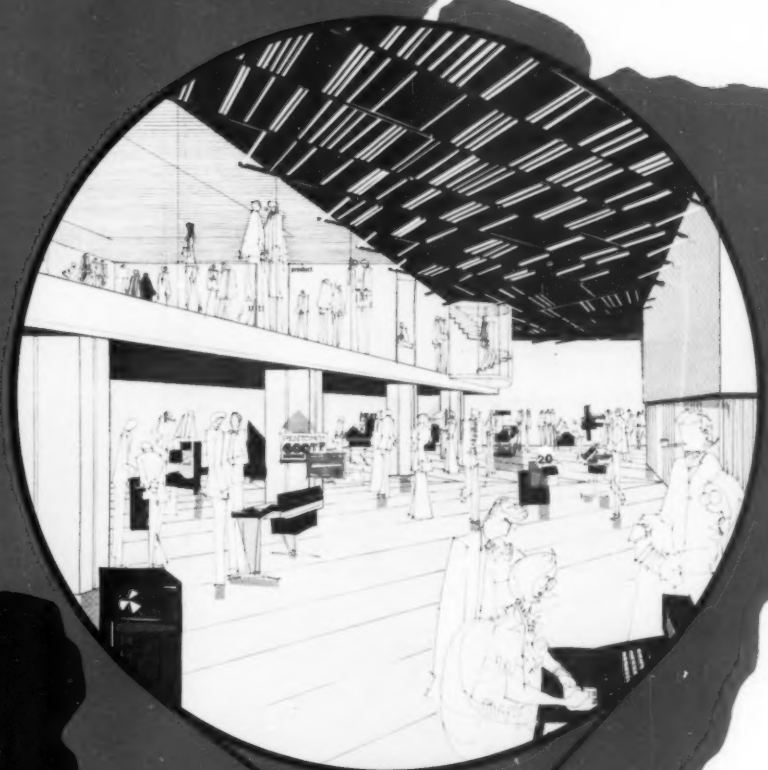
SOCIAL SCIENCES

New U.S. Trade Center in BRAZIL



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Newsmemo

The GATT multilateral trade negotiations have produced their first concrete results. Six industrialized nations and the European Common Market group have put into effect this year concessions for developing nations on what are called "tropical products"—coffee, cocoa, spices and other primary commodities, but also some semi-processed and processed items. Since many developing nations derive a major part of their export earnings from sales of such products the Geneva negotiators had placed a top priority on achieving progress in this field. The U.S., in offering its tropical products concessions, has asked for trade contributions by the developing nations in return. Resultant discussions are continuing.

Is a "global bargain" possible between the world's have and have-not nations? Talk of such a once-and-for-all solution, says development official Maurice Williams, is a "misguided notion that has encouraged ideological posturing" on both sides. He urges rather a sustained, steady cooperative effort out of which can come joint understanding on important economic objectives and policies. Williams is chairman of the Development Assistance Committee of the Organization for Economic Cooperation and Development, the Paris-based unit that includes most of the industrialized nations.

Managers of foreign companies in Missouri are supplying useful enthusiasm to a state promotion effort. The Missouri Division of Commerce and Development has surveyed such managers and found that they think other international firms should follow their lead. German, British, Finnish and Japanese-owned firms supplied the experiences that are quoted in the survey. Central location, good distribution net, excellent work force and favorable power costs are seen as prime Missouri attractions. "Our survey covers just Missouri, but from what I've heard managers of foreign businesses in other heartland states feel the same way," reports division director Donald Estell.

Uncertainty about the application of U.S. antitrust laws can hold back vital world trade and investment. So believed the President's Export Council, an advisory group of executives from the U.S. business community. This concern led Justice Department officials to develop a useful guidebook in this field. Newly published, it contains a general discussion of Justice policy and a look at 14 representative case situations. "Antitrust Guide for International Operations" is available at $1.30 from the Superintendent of Documents, U.S. Govt. Printing Office, Washington, D.C. 20402. The order number is GPO 027-000-00478-4.

About 200 U.S. minority-owned companies have the capability to export their products or services. This estimate by Commerce's Office of Minority Business Enterprise (OMBE) underlies a new effort within the Department to acquaint these firms with specific sales opportunities open to them around the world. Their consultations with Commerce District Office international trade specialists (addresses and phone numbers are on inside back cover) can open the way to specific trade leads, market research data, assistance on export financing, lists of available agents abroad, and participation in Commerce-sponsored trade promotion events.

There's no hidden formula in picking the most economical new car—it all comes down to size and weight. That's the advice from Runzheimer & Co., auto travel cost consultants, in issuing 1977 model costs projected over a four-year car life. The figures include original outlay, financing, depreciation, insurance, taxes, maintenance, gasoline, oil and tires. Average weekly cost of a four-cylinder sub-compact is $43.05. This total climbs steadily through eight larger categories to $81.32 per week for a luxury automobile.

Are American consumers deriving genuine benefits from memberships in buying clubs? The Federal Trade Commission has initiated an inquiry to determine whether such clubs, purchasing services or other profit-making organizations selling memberships that promise purchasing opportunities at below-retail prices are using unfair or deceptive acts or practices. The investigation will look into the organization and operation of the clubs, their advertising and sales representation claims, and the nature and extent of benefits. Written comments by consumers are being received by the FTC at 55 E. Monroe St., Room 1437, Chicago, Ill. 60603.

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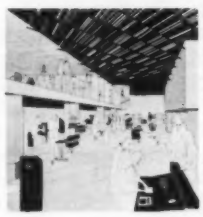

COVER: The new Sao Paulo U.S. Trade Center opening this spring will serve the world's fifth largest nation, Brazil, a growing market of more than 110 million. In addition to the exhibition hall sketched here, the Center will have a seminar theater and meeting rooms that can serve as offices for U.S. businessmen, plus telecommunications and secretarial services. See story beginning on page 4.

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Focus On GNP Components Yields Different Perspectives On Growth

This column was prepared by John W. Kendrick, Commerce Chief Economist, in collaboration with David C. Lund.

John W. Kendrick

Demand in the U.S. economy has followed a remarkably even course during the 1975-76 recovery despite the quarter-to-quarter fluctuations in gross national product. The data on final sales, adjusted for inflation, indicate that GNP would have progressed steadily over the past seven quarters if there had not been marked swings in inventory investment. Thus, the recent focus by analysts on the behavior of real final sales becomes easier to understand in light of the important but irregular and sometimes confusing movements of business inventories.

As indicated in the top panel of Chart 1, the quarterly changes, at annual rates, in real GNP have ranged from a negative 9.9 percent in the first quarter of 1975 to an 11.4 percent increase in the third quarter of 1975. The quarterly rates in 1976 began at 9.2 percent, followed by 4.5 percent, 3.9 percent, and a preliminary figure of 3.0 percent in the last quarter. It is clear from the dotted line in the top panel that real final sales has contributed approximately four percentage points or more to quarterly GNP rates since the second quarter of 1975 and that inventory change accounted for much of the fluctuation of quarterly GNP growth during that period.

While factoring annual GNP growth rates into real final sales and inventory change components provides a different view of real GNP growth, it masks offsetting changes which sometimes occur among the personal consumption, fixed investment, government and net export components of real final sales.

In the lower panels of Chart 1 the quarterly changes in real GNP are factored into the contributions (positive and negative) made by the major GNP components. These component charts highlight the changing roles of the various components and their respective percentage point contributions to the quarterly rates of GNP growth. For example, the 3.0 percent growth rate in real GNP in the fourth quarter consisted of positive contributions totaling nearly 4.9 percentage points for consumption, fixed investment, and government, offset by a decline of 1.9 percentage points due mainly to the negative effect of changes in business inventory accumulation and net exports.

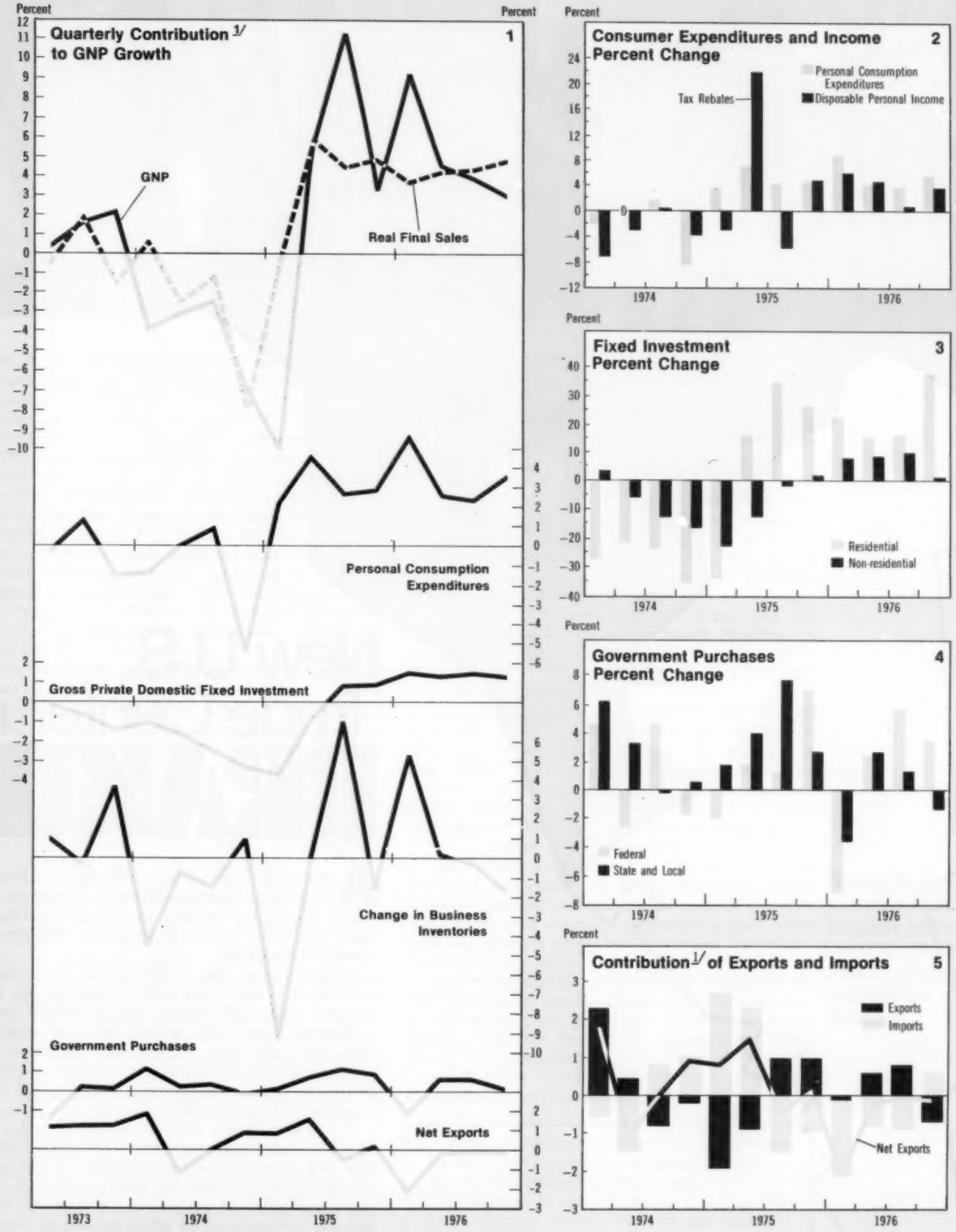
As reflected in Chart 2, gains in real personal consumption expenditures strengthened to 5.4 percent in the fourth quarter, up from 3.6 percent in the third quarter. The increase was accompanied by a 3.7 percent rise in real disposable personal income, up from only 0.7 percent in the third quarter. The personal saving rate declined to 6.0 percent in the third quarter, down from 6.4 percent in the third quarter. The 5.4 percent rate of growth in personal consumption expenditures reflected slower rates of growth in expenditures for durable goods and services, respectively, of 2.3 and 3.9 percent, and a sharp increase to an 8.5 percent annual rate in nondurable goods expenditures. The 2.3 percent increase in durable goods expenditures was strongly affected by a decline in the new car component. If this effect is removed, the remaining durable goods expenditures rose at a 7.7 percent annual rate. Also, the decline in autos from the third quarter obscures the monthly pattern as sales of new cars in December showed a sharp recovery from levels of the previous three months.

The cold weather was beginning to affect the preliminary fourth quarter data as the energy component of real personal consumption expenditures rose more than 16 percent at a seasonally adjusted annual rate. This reflected an increase of 39.9 percent in fuel oil and coal and 10.9 percent in gas and electric expenditures. The fourth-quarter rise in the PCE energy component contributed about 0.3 percentage points of the 3.0 percent rise in real GNP.

The 1976 contributions to quarterly real GNP growth from government expenditures ranged from a negative 1.1 percentage points in the first quarter, to 0.6 points in the third quarter, and back down to 0.1 percentage points in the fourth quarter. The fourth quarter behavior reflected a slowdown in the rate of growth of federal expenditures and a small decline in real state and local expenditures. The latter decline occurred in spite of a small increase in state and local employment. Real net exports had a very small negative impact on GNP growth rates in the last three quarters of 1976. However, the fourth quarter preliminary figures did not take into account the sharp increase in merchandise exports reported in December. The negative growth contribution in the first quarter reflected a surge in imports reinforced by a slight decline in exports.

The relatively stable contribution of real fixed investment to GNP growth throughout 1976 reflected offsetting rates of change in residential and nonresidential components. The 1.4 percentage point GNP contribution in the third quarter reflected 16.1 percent and 9.6 percent increases in nonresidential and residential components while the 1.3 point fourth quarter contribution consisted of 0.8 percent and 37.0 percent increases in the nonresidential and residential components. Housing starts in December were at an annual rate of 1,940,000, the highest level since late 1973.

At the end of 1976 the economy was showing strong signs of renewed growth in real final sales, and the leading indicators were pointing toward continued strength in 1977. Price behavior in 1976 was also encouraging with a 5.1 percent rise in the implicit price deflator, down from 9.3 percent in 1975. However, recent energy and weather-related developments are likely to have a significant dampening effect on growth rates of production and employment in the first quarter. It is quite possible that production in some industries will continue to be restrained to some extent by energy problems; however, this effect is likely to be very small relative to the strong rebound in those industries that will be striving to make up for lost output in the first quarter.



1/ Dollar change in component as percent of prior quarter GNP.

Note: Contribution numbers may not add to total due to rounding; all calculations based on constant 1972 dollars, SAAR

Source: U.S. Dept. of Commerce

The new U.S. Trade Center is located in the cluster of buildings at the extreme left of this photo of the ever-expanding business district of Sao Paulo, Brazil.

New U.S. Trade Center in BRAZIL

A new U.S. Trade Center will open in Brazil's bustling commercial-industrial metropolis, Sao Paulo, this spring and join the Commerce Department's worldwide chain of exhibition facilities for American exporters.

Drawing upon the Department's 15 years of experience in operating such centers, it has been designed with 5,000 square feet of exhibit space; a seminar room with seating for 100, equipped with film and other audio-visual equipment, including simultaneous translation devices; and meeting rooms to serve as private offices for U.S. businessmen and technicians.

It will also have a commercial library and a full range of telecommunications, secretarial, translation and document copying services. It will house an exhibition staff and the staff of the U.S. Consulate's commercial section. It occupies two floors and the mezzanine of an office building at Avenida Paulista 2439 in the city's business district.

The inaugural event, May 16-20, will bring the American business community in Brazil into a host

role. It will feature the products of the U.S. subsidiary firms that are members of the American Chamber of Commerce in Brazil, and thus give the Center an opportunity to dramatize U.S. business contributions to Brazil's growth and prosperity.

The first exhibition in the pattern of regular Trade Center shows will be staged in September, for U.S. producers of industrial process control instrumentation. Market research has turned up a remarkable record of growth in the Brazilian market in this field and indicated that this growth should continue, with U.S. products in a strong position to dominate sales. The research, conducted for Commerce's Office of International Marketing, has also targeted specific instruments and controls with the best sales prospects.

The September show will be followed by exhibitions of machinery and equipment for a variety of industries in which Brazil has set development goals, including graphic arts, mining, pollution control, plastics production, aviation and food processing.

Commerce Department market research shows that the best prospects for U.S. exports and investment lie in these fields and in such priority sectors as hydroelectric power projects, petroleum and petrochemicals, steel and agriculture.

In an effort to reduce its balance of payments deficit and control inflation, the Brazilian government has introduced various import restrictions and credit constraints over the last two years. Even so, Brazilian imports were more than $12 billion in 1976 and are expected to be at about the same level in 1977.

The United States accounts for about one-third of Brazil's non-oil imports, and is Brazil's leading trade partner. U.S. exports to Brazil last year were nearly $3 billion, making Brazil one of this country's ten largest foreign markets. Brazilian imports from the U.S. this year are expected to be about the same.

Commenting on the timing of the new Commerce Department promotional effort in Brazil, a Department official declared: "We recognize the current existence of real problems for U.S. firms pursuing their commercial interests in Brazil, especially for those businessmen attempting to break into the market for the first time. In spite of the current limitations on imports, Brazil will purchase $12 billion of manufactured goods and supplies this year alone. This fact suggests that despite the current import substitution program, there will continue to be large areas of capital goods in which Brazil will continue to rely on foreign suppliers.

"With a land mass of over three million square miles, Brazil is the fifth largest nation in the world, a nation with enormous untapped resources, with a population of over 110 million, a nation with a growing and dynamic market, well on its way to becoming an industrial giant, and a market which simply cannot be ignored."

Sao Paulo, the largest city in Brazil and the foremost industrial center in South America, is located near the Atlantic coast, 220 miles southwest of Rio de Janeiro. It frequently is called "the Chicago of South America."

Situated 30 miles inland at an altitude of 2,400 feet, Sao Paulo is served by the port of Santos. Although located on the edge of the tropics, the city enjoys a temperate climate because of its altitude. Its metropolitan area now covers 885 square miles and contains a population of more than eight million. The population is projected to reach 12 million by the year 2000.

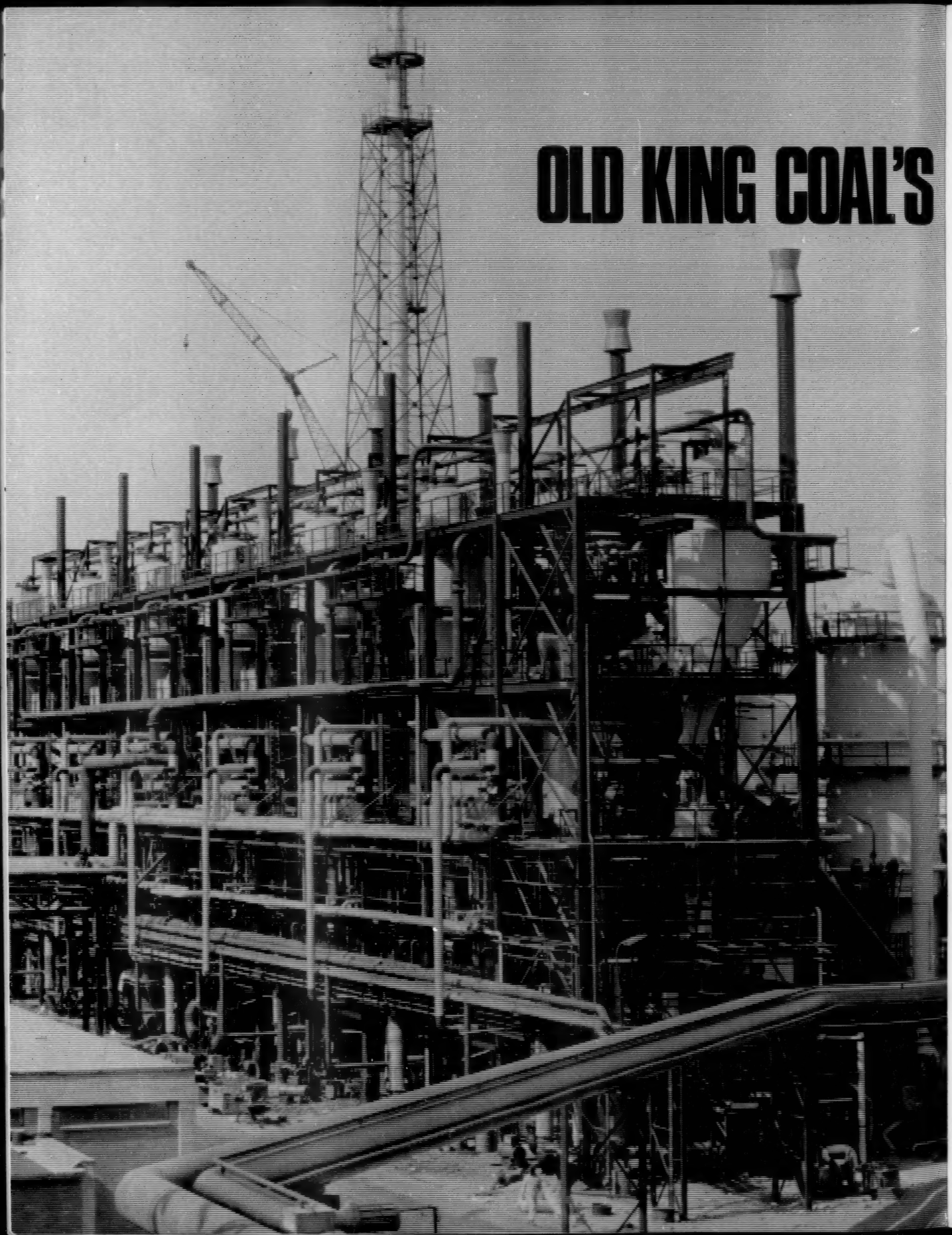
Sao Paulo's position as the commercial capital of Brazil was reinforced during the recent period of rapid national economic growth, 1968-74, when the growth rate averaged 10 percent a year. That rate has dropped since, but it remains one of the highest for any major country.

U.S. manufacturers interested in additional information about the Sao Paulo U.S. Trade Center, or in participating in exhibits there, may obtain details from the Bureau of International Commerce, U.S. Department of Commerce, Washington, D.C. 20230, telephone 202-377-5427, or through Commerce Department District Offices.

Brazil is the world's fifth largest nation . . . a market which simply cannot be ignored.

Other promotional facilities operated abroad by the U.S. Government on behalf of U.S. exporters are in the following cities:

In Europe, in London, Paris, Milan, Stockholm, Cologne, Vienna, Warsaw and Moscow; in the Far East, in Tokyo, Osaka, Singapore, Sydney, Taipei and Seoul; and in Tehran and Mexico City.



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New Lease on Life

Old King Coal's position as the national fuel of commerce and industry—abdicated two decades ago to oil and gas—is on the way to restoration through existing gasification technology and the emergence of a new generation of pollution control equipment.

The return to power of the nation's most abundant energy resource may be accelerated by the recent realization that "there is no inexpensive way out" of the energy crisis, according to one official of the Commonwealth of Pennsylvania.

Rising oil and gas prices and the shortages are making coal gasification more economically feasible, at least for the larger, energy-intensive industries in the Northeast corridor with easy access to Pennsylvania's coal deposits. Further, with the new pollution control devices on the market, direct burning has become an efficient use of anthracite as well as much bituminous.

Pennsylvania Governor Milton Shapp and the two U.S. Department of Commerce District Offices in the state are leading the coal revitalization movement by calling attention to the many alternative uses of coal.

Developments in Pennsylvania, which may have favorable national implications, are:

- The Pennsylvania Governor's Energy Council is supporting a national coal policy which would encourage the use of coal without lowering environmental standards. Dennis Seipp, the Governor's coordinator, says that "Pennsylvania's own comprehensive coal policy also attempts to deal with mining, transportation, labor and mining equipment supply problems that might develop with new attention to coal."
- Richard Dammon of Glen Gery Corp. of Reading, Pa., says he has been using anthracite converted gas for the past 25 years more cheaply than he could burn natural gas. Glen Gery Corp. is the nation's fifth largest brick manufacturer. Dammon recently received a grant from the Energy Research and Development Administration "to prove what I'm saying is true and to share my experience with others."

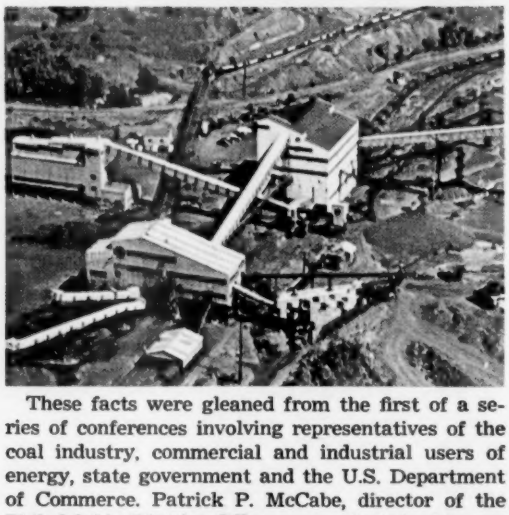
Dammon, who recently bought a coal mine and "went into the mining business" to assure supplies for his energy-intensive industry, said anthracite coal is available, it is competitive with other fuel sources, it (coal gasification) can be installed in a year and the cost "is not that much."

- Robert Wellman, Jr., of McDowell-Wellman Engineering Co. of Cleveland, Ohio, the firm which designed and installed the coal gasification equipment for Dammon's firm, confirmed that Glen Gery's cost for converted coal is $1.75 per million British Thermal Units (BTUs). The cost of natural gas would be $2.35 per million BTUs in Reading.
- Can Do, Inc., of Hazelton, Pa., used a small grant from the Appalachian Regional Commission to do an economic feasibility study for manufacturing and distribution of anthracite-based producer gas (coal gasification) in Humboldt Industrial Park. Can Do is the industrial development arm of the Hazelton Chamber of Commerce. The study proved that anthracite gasification for use by residents of the industrial park would be so economically feasible that officials of Can Do are hurrying to put together a financial package for construction of the gasification unit.
- Commerce's Economic Development Administration has offered Can Do, Inc., 50 percent financing for the project, estimated to cost $4 million, and the remaining balance is expected to be raised through private and other government sources. ERDA has offered Can Do $800,000 working capital once the project is on stream.
- Babcock & Wilcox is working with the Dravo Corporation in offering a gasifier in the United States.
- Koppers Totzek, a division of the Koppers Co. of Pittsburgh, has 16 gasification plants in operation or under construction throughout the world. Dr. Gilbert McGurl of Koppers Totzek, says coal gasification has helped developing countries, which cannot afford to import oil and natural gas, to create gas from anthracite to make synthetic ammonia.
- Financing should not be a problem for Pennsylvania firms desiring to convert to coal, according to Frank J. Schrey III, of the Pennsylvania Department of Commerce. He says state law will help companies to borrow money at below-market interest rates to buy and install energy conversion equipment.
- Stoker production, an industry which almost died in the 1950s, has been revitalized and manufacturers report sharp increases in sales since 1973. Manufacturers of the equipment which burns coal directly are innovating new pollution control methods.

Rising oil and gas prices and the shortages are making coal gasification more economically feasible . . .

Koppers Totzek has 16 gasification plants in operation or under construction worldwide. This six-gasifier plant produces 1,000 metric tons of ammonia per day.

The Pennsylvania Governor's Energy Council meets in Harrisburg to consider problems of coal utilization.



Reading Anthracite Company's New St. Nicholas Breaker, near Minersville, Pa., processes the anthracite of the area.

These facts were gleaned from the first of a series of conferences involving representatives of the coal industry, commercial and industrial users of energy, state government and the U.S. Department of Commerce. Patrick P. McCabe, director of the Philadelphia District Office, was a host for the recent conference in Pottsville, Pa., heart of the anthracite region. Newton Heston, Jr., director of the Pittsburgh District Office, will be a host for the second meeting in Johnstown, Pa., in the bituminous region, on February 25. Local chambers of commerce and the Governor's Energy Council, chaired by Lt. Gov. Ernest P. Kline, are co-hosting the meetings to alert industrial and commercial users to the opportunities coal offers.

Two threads of thought which run through talks with coal people in Pennsylvania are "there won't be a revolution in coal production, but steady growth based on slow development of new technology," and "there is no inexpensive way out," according to William B. Harral, executive director of the Governor's Energy Council.

Gasification of coal is expensive, which is why it has not been used to any extent in the United States, but inflated prices of other fuels are making it more and more attractive. It is still in the foreseeable future only for large industries or residents of an industrial park.

"Assuming 8 percent inflation, if you put up a Koppers Totzek (KT) plant instantaneously, the KT gas would be less than the cost of oil in about 7 years," says Dr. McGurl.

Noting that the current consensus is that the price of oil will continue to rise with inflation, Dr. McGurl said "so over a 20-year span, if that kind of philosophy can be believed, the cost of KT gas—intermediate BTU gas for a fairly large user—would be less than that of consuming oil.

"You would have to have a lot of guts to make that decision (to go to gasification today)," Dr. McGurl states. He adds, however, that the Koppers Totzek unit has been commercially proven in use for 25 years. The plants in operation around the world are for synthesizing ammonia and methanol, but the process does have power generation applications.

"It is a versatile process—it can use all ranks of coal as well as oil," McGurl said. "If you run out of coal and get a free source of oil, you can use it. It operates a good 330 days a year. It's fairly simple construction. It's safe and it is high capacity."

Acknowledging some problems in acceptance, Dr. McGurl expressed the opinion that until some really advanced stage turbines are developed to get satisfactory heat rates, most users are going to "go with the conventional."

Availability and price, in the final analysis, are the key factors in the dominance of any energy source.

F. Heywood Marsh, senior vice president of Berger Associates of Harrisburg, Pa., which did an anthracite study, notes that anthracite, although in abundance in Pennsylvania is, due to its geological formation, difficult and expensive to mine. However, with the introduction of new techniques the cost can become competitive.

"Low sulfur is anthracite's greatest single attraction, and high price, its greatest single deterrent," he points out.

He says there is a lack of confidence between the miner and the consumer, due to some failures of the industry in the past to meet demands. Some possibilities that could revitalize the anthracite region are use of anthracite in local, state and federal buildings, and a stockpiling program sponsored by federal and state governments that would buy up surplus production and sell when demand outruns the supply.

"We have the coal, there is a large potential demand, the industry must put two and two together," Marsh says, adding that a problem is a lack of a national energy policy.

"The coal industry has a right to know where it stands, environmentally, where it stands in competition to other fuels, and what overall role it is expected to play. Then the industry can get down to the business of making the U.S. self-sufficient in energy," Marsh concluded.

Energy Digest

ENVIRONMENTAL ADVICE . . . The Energy Research and Development Administration (ERDA) is setting up an Environmental Advisory Committee to increase public involvement in defining the agency's goals and setting policies. The new panel will provide advice on social, economic and institutional impacts of ERDA's energy programs; the preparation of environmental impact assessments and statements; biomedical and environmental research and planning; and occupational health and safety matters within ERDA facilities. The Committee's 21 members, who will meet at least four times a year, will be drawn from the fields of science, medicine, industry, state and local government, and environmental protection, as well as the general public. Recommendations for membership should be sent to Dr. Joel B. Stromberg, Office of the Assistant Administrator for Environment and Safety, ERDA, Washington, D.C. 20545.

TIGHTENED PURSE STRINGS . . . The Nuclear Regulatory Commission has decided not to provide financial support for individuals or groups intervening in its regulatory proceedings, except in cases of extraordinary importance such as allowing mixed oxide fuel (plutonium and uranium) in nuclear power plants. A majority of the Commission members felt that providing such funds should be left to Congress to decide, pointing out that financing a full-scale intervention in one of its proceedings could cost more than $100,000. NRC anticipates up to 20 licensing proceedings alone in the coming year, and many such proceedings have multiple intervenors—some as many as eight. However, the Commission plans to ask Congress for a specific appropriation for participants in the mixed oxide fuel decision because "the domestic issues raised by the proceeding run the entire gamut from economic and national security concerns to health, safety and environmental considerations. Moreover, the decision has major international implications, particularly in the area of non-proliferation."

CONSUMER WATCHDOG . . . Federal Energy Administration compliance actions resulted in consumers recovering more than $481 million from U.S. industries between July 1974 and December 1976. Of this total, $63.5 million was directly refunded to customers of firms found in violation of FEA regulations, and $101.4 million was returned through price rollbacks. The remainder were adjustments of banked costs. These bank adjustments represent changes to refiners' allowable costs which otherwise could have been passed through to the ultimate consumer. In addition, 860 penalties exceeding $3 million have been collected from firms found to be in violation of FEA regulations. There are currently 1,172 open cases where violations have been charged.

PILOT PLANT PLANNERS . . . Three industrial teams will negotiate contracts with ERDA for the conceptual design and engineering of the first large pilot plant to test coal-to-electricity systems called magnetohydrodynamics (MHD). The test facility will be a combined MHD/steam cycle plant using coal as a fuel and designed to test systems performance and operational characteristics. The three teams, headed by General Electric, AVCO and Westinghouse/Morrison-Knudsen, were selected from among six proposals received. Industry/government studies project that an MHD central power plant may achieve efficiencies one-third higher than the most efficient commercial electric generating plants available today. Essentially, MHD systems would convert coal to a hot gas that moves at high velocity through a magnetic field to produce electricity. The CDIF will test MHD components on an intermediate scale—an essential step toward achieving commercialization of open cycle systems in the late 1980s.

MATCHUPS . . . A National Energy Manpower Bank and Job Clearinghouse, the first of its kind in the United States, has opened at the Institute of Energy Resource Management at Eastern Illinois University. The service is designed to bring energy experts and energy-involved companies together. Resumes are being accepted from individuals with energy training or experience, and from others who are simply interested in a career in the field. Applicants with backgrounds in engineering, environmental sciences, applied social sciences, resource planning and development, and management are especially encouraged to submit resumes. There is no charge for the service. Applicants will have their names listed in one or more of 17 different fields, ranging from regulatory law to research and development. The Institute will send copies of appropriate resumes to interested agencies, institutions and companies. Since mid-October, the Institute has received more than 30 requests for help from companies. Firms interested in filling energy positions can contact the Institute of Energy Resource Management, Eastern Illinois Univ., Blair Hall 101, Charleston, Ill. 61920 (217-581-2527).

Domestic Business Report

Centers Help Business Cope With Winter Woes

DISTRICT OFFICES PROVIDE HAVENS FOR CHILLED ENTREPRENEURS; NATURAL GAS UNIT REACTIVATED

As the economy shudders through the worst winter in the memory of most Americans, Commerce is providing businessmen with special help in solving their weather-induced problems.

Secretary of Commerce Juanita M. Kreps has designated the 63 Department of Commerce field offices around the country as Centers for Business Emergencies to help businesses survive energy shortages and weather disasters.

At the same time, Secretary Kreps also called upon the business community to demonstrate how effective energy conservation can be in relieving current energy problems.

"The help offered by Centers for Business Emergencies can be of two sorts," she said. "On the one hand, they can pinpoint sources of assistance within the Federal Government. On the other, they can see that constructive suggestions and potentially useful solutions coming from the business community are placed directly and immediately with the government official who can act on them."

Calling on individual citizens to join with the business community and government to alleviate the energy shortage, Secretary Kreps stated: "When our current situation is viewed realistically, it is clear that conservation offers the best, quickest, cleanest, cheapest and most efficient means of relieving our current energy problems.

"As the largest user of natural gas—the energy source now in shortest supply—the business community is in a unique position to show all Americans how effective this approach can be.

"Business and industry have vividly demonstrated their sense of leadership and responsibility in the past. I am confident they will do so in the present crisis."

Among the kinds of help available to business from the CBEs, the Secretary listed:

- Identification of situations where federal assistance is in fact available but is not being used because business does not know about it. In those states that the President has designated disaster areas, for example, business can take advantage of low-interest-rate disaster loans from the Small Business Administration, while unemployment payments and reemployment assistance services are available to those who are not working because of the crisis.
- Advice on obtaining energy for businesses engaged in defense work or defense-related projects.
- Guidance in dealing with public utility commissions that have the authority to divert energy supplies, including natural gas, from non-essential uses.

The CBEs also can help businesses investigate longer-term opportunities for energy conservation and for use of alternate fuels through a variety of information sources, including Energy Management Guides for large, small and medium-size businesses, and a series of energy conservation booklets.

In further response to the worsening natural gas situation, the Commerce Department's Natural Gas Action Group has been reactivated.

The Group, which was organized during the winter of 1975-76, is designed to assist business and industry in coping with natural gas supply interruptions. It was originally formulated:

—to provide advisory assistance to industries impacted by natural gas curtailment;

Satellite Centers

In addition to the 43 full-scale Commerce District Offices listed inside the back cover of this magazine, the Department's 20 Satellite Offices listed below have also been designated as Centers for Business Emergencies. Parent District Office is in parentheses, when located out-of-state.

Ann Arbor—Graduate School of Business Admn., U. of Michigan, Room 288, 48105, (313) 944-3297.

Asheville, N.C.—151 Haywood St., 28802, (704) 254-1981.

Boise (Portland, Ore. District)—P.O. Box 9366, 83707, (208) 384-1326.

Butte (Cheyenne District)—210 Miners Bank Bldg., Park St., 59701, (406) 723-6561, Ext. 2317.

Charleston, S.C.—Suite 631, Federal Bldg., 334 Meeting Place, 29403, (803) 577-4361.

Clearwater, Fla.—128 North Osceola Ave., 33515, (813) 446-4081.

Frankfort, Ky. (Memphis District)—Capitol Plaza Office Tower, Room 2332, 40601, (502) 875-4421.

Grand Rapids—17 Fountain St. N.W., 49503, (616) 456-2411/33.

Jackson, Miss. (Birmingham District)—P.O. Box 849, 2003 Walter Sillers Bldg., 39205, (601) 969-4388.

Jacksonville, Fla.—604 North Hogan St., 32202, (904) 791-2796.

Kansas City, Mo.—Room 1840, 601 East 12th St., 64106, (816) 374-3142.

Little Rock (Dallas District)—1100 North University, Suite 109, 72207, (501) 378-5157.

Nashville—Room 1004, Andrew Jackson Office Bldg. 37219, (615) 749-5161.

Oklahoma City (Dallas District)—4020 Lincoln Blvd. 73105, (405) 231-5302.

Portland, Me. (Boston District)—Maine State Pier, 40 Commercial St., 04111, (207) 775-3131.

Providence (Boston District)—1 Weybossett Hill 02903, (401) 277-2605, ext. 22.

San Antonio—University of Texas at San Antonio, Div. of Continuing Education, 78285, (512) 229-5875.

San Diego—233 A St., Suite 310, 92101, (714) 293-5395.

Tallahassee—Collins Bldg., Rm. G-20, 32304, (904) 488-6469.

Wichita (St. Louis District)—Wichita State U., Clinton Hall, Room 341, 67208, (316) 267-6160.

Secretary Kreps Defines Department's Goals

Commerce Secretary Juanita M. Kreps, in her confirmation hearing before the Senate Committee on Commerce, gave her views of the Department as "a major participant in the economic policy-making process—the analyst of our economic problems and the evaluator of economic development . . . The objective of the Department then is to join in formulating those policies and programs that will ensure balanced economic growth.

"With this objective in mind, we shall review the operations and missions of the Department of Commerce and its relationships to the consumer, to private business and to other agencies in the Federal Government. And we shall try to eliminate unnecessary government interference, paperwork, red tape and regulations, which are the source of much current distrust and disillusionment with government.

"We shall encourage business leaders to come to us with their recommendations. We shall welcome their ideas and their suggestions and problems. Moreover, when there is an opportunity to utilize the private sector to achieve our national goals and objectives, we should turn to the sector.

"However, I do not see the Department as a closed corporation designed to promote the private sector. Rather, I see it as an open advocate of the public interest, very broadly defined. I shall, therefore, actively solicit not only the views of large and small businesses but also the views of consumers and other public interest groups. We must take care that consumers get a fair break in the market place. For it is not enough to improve economic output unless we also improve the well-being of the consumer."

Mrs. Kreps, former vice president of Duke University in Durham, N.C., is the first woman to serve as Secretary of Commerce, and the first economist to hold this position.

Secretary Kreps has 30 years of experience in the academic field as a teacher, writer and administrator, and has served on numerous boards of directors, state and federal advisory committees, councils and commissions. She holds a Ph.D. in Economics from Duke and received her A.B. from Kentucky's Berea College, where she was a Phi Beta Kappa, and her Master's Degree from Duke.

Prior to being appointed Duke vice president in 1973, Mrs. Kreps was dean of the Women's College and assistant provost, and had been first associate professor and later full professor of economics. She was named a James B. Duke Professor of Economics in 1972.

Secretary Kreps has served on the boards of directors for the New York Stock Exchange; R. J. Reynolds Industries; J. C. Penney Co.; Eastman Kodak; North Carolina National Bank; Teachers Insurance & Annuity Assn.; College Retirement Equities Fund; Western Electric; and North Carolina Blue Cross-Blue Shield.

Mrs. Kreps is the author of two books, *Sex in the Marketplace: American Women at Work* and *Lifetime Allocation of Work and Income*. She has also co-authored: *Sex, Age and Work: The Changing Composition of the Labor Force*, with Robert Clark; *Contemporary Labor Economics*, with Richard Perlman and Gerald Somers; and *Principles of Economics*, with C. E. Ferguson.

She was editor of *Our Natural Resources: Their Develop- and Use*, and editor and contributor of *Women and the American Economy, A Look to the 1980's; Technology, Manpower and Retirement Policy;* and *Employment, Income and Retirement Problems of the Aged.*

She and her husband, Dr. Clifton H. Kreps, Jr., co-edited the book *Aid, Trade and Tariff*. She has also written a number of monographs and many articles.

Mrs. Kreps' governmental experience has included consultant to the U.S. Special Committee on Aging; member of a Social Security Advisory Council; North Carolina delegate to the White House Conference on Aging; member of the Office of Economic Opportunity's Task Force on the Older Poor; member of the U.S. Department of Labor's Committee on Research of the National Manpower Advisory Committee; member of the Commission on the Operation of the Senate appointed by the U.S. Senate; member of the National Commission for Manpower Policy; vice chairman of the North Carolina Manpower Council; and member of the Labor Department's Small Grants Panel.

Mrs. Kreps has also served as member and officer of numerous economic and academic associations.

—to help Commerce analyze natural gas related problems; and

—to generate information for decision-making during crisis periods, and to conduct quick local studies as appropriate.

NGAG is also designed as a communication link for the exchange of experiences involving alternate fuels and conversion problems; the dissemination of fuel and policy data; the evaluation of conservation actions; the exploration of policy options; and the providing of state and local input to federal policy.

It consists of government energy and industry specialists conversant with national fuel problems, and is backed up by more than 100 Commerce industry and commodity specialists working directly with business firms.

The group provides assistance and counselling by letter or telephone in the case of simple inquiries or by field visits as the need arises.

NGAG cannot supply additional gas; neither can it supply funding. It suggests that those desiring assistance should have first been in contact with their state energy offices either directly or through Commerce's district offices.

For further information contact Joseph Gustaferro at the Office of Energy Programs, U.S. Department of Commerce, Washington, D.C. (202-377-4318).

Small U.S. Businesses Can Get Loans To Offset Energy-Caused Injuries

Small businesses which suffer substantial economic injury because of shortages of energy or energy-related materials are eligible for emergency loans from the Small Business Administration.

These loans may be used for working capital to pay financial obligations which a concern could have met if the energy shortage did not exist, to refinance short term (and, in some cases, long term) debt, and to convert to a new and different type of fuel source.

The direct, immediate participation, or

bank guarantee loans may be made for a period of up to thirty years. Direct loans and SBA's share of an immediate participation loan may not exceed $500,000, except in cases of extreme hardship, and bear an annual interest rate of 6⅝ percent.

Bank guarantee loans and a bank's share of an immediate participation loan have no dollar limitation. Interest rates on bank guarantee loans and a bank's share of an immediate participation loan are set by the bank.

These loans are in addition to loans made under the regular physical disaster loan program to businesses of all sizes in states and areas that have been declared major disaster areas by the President or disaster areas by the SBA Administrator.

Small business owners interested in SBA Emergency Energy Shortage Loans should get in touch with their nearest SBA office.

AS JOB DOORS OPEN, MORE WOMEN ENROLL IN GRADUATE SCHOOL

Reflecting their brighter job prospects in the wake of the Women's Movement, graduate and professional school enrollment among women rose about 75 percent between 1970 and 1975. For men the five-year increase was only 23 percent, a recent Census Bureau report shows.

Women represented about half of all first-year graduate students in 1975 but were still less likely to remain in graduate school than men, the Commerce Department agency reported. After the first year or more, women accounted for only one-third of all graduate students, which is still much higher than the 22 percent recorded in 1970.

Women also made gains in undergraduate enrollment—their enrollment increased by 40 percent from 1970 to 1975, compared to a 21 percent increase by men. Women comprised about half of all freshmen but again were less likely to complete college.

The report attributes higher enrollment among women to several social and economic developments. The change is partially due to a rise in the number of older—married and single—women attending. The number of women aged 25 to 34 attending college more than doubled, while the number under 25 increased by 30 percent.

The report also details school enrollment among blacks. The number of black college students increased by about 80 percent during the period, but the overall educational level of blacks is still significantly below that of whites. The report points out that a substantial proportion of blacks do not complete high school and therefore are not eligible for college.

In fact, 25 percent of blacks aged 18 and 19 were high school dropouts in 1975 while another 22 percent in this age group were still in high school. The corresponding figures were 15 percent and eight percent for whites.

Sixty-one million students between the ages of 3 and 34 were enrolled in the nation's schools in 1975, while an additional 1.2 million were over 34. Graduate school enrollment for those aged 20 to 34 was 1.6 million. Increases in college enrollment contrasted, however, with losses in elementary figures. In one year, the number of persons under 35 attending college grew by 870,000, or 10 percent, as enrollment in grades one through eight decreased two percent, or by 680,000.

Single copies of the report, *School Enrollment—Social and Economic Characteristics of Students: October 1975,* Series P-20, No. 303, are available for $1.75 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from Commerce District Offices in major U.S. cities.

SPECIAL CAPTIONS MAY ALLOW DEAF TO 'HEAR' TV PROGRAMS

More than 13 million Americans with hearing problems may soon be able to "hear" television programs, thanks largely to research by scientists at Commerce's National Bureau of Standards.

On December 10, the Federal Communications Commission agreed to change its broadcast rules to allow television networks to provide "closed" program captions for the deaf and hearing-impaired.

Closed captioning means that a special decoder for the individual TV set allows viewers to see the captions without viewers with normal hearing being distracted. The captions are similar to the subtitles used in foreign-language films.

The Public Broadcasting Service network is already captioning some programs in this manner, and intends to expand the service.

The FCC ruling is the final step in a successful transfer of government-developed technology to the private sector. The technology that makes captioning possible was developed in 1971 by the NBS laboratory in Boulder, Colorado.

Originally developed to distribute accurate time and frequency information to the public over network television, the NBS system was later modified to include program captions for the hearing-impaired. In early 1972, in cooperation with the ABC television network, NBS demonstrated the feasibility by sending captions to the deaf and hearing-impaired students at Gallaudet College in Washington, D.C.

The response was so favorable that the Secretary of Commerce petitioned the FCC to allow time, frequency, and program captions to be broadcast over network television. The petition quickly gained the support of industry and professional committees and many congressmen.

President Ford later urged Commerce's Office of Telecommunications Policy to meet with appropriate persons in the public and private sectors to encourage voluntary implementation of TV captioning for the deaf.

Over the next three years, PBS refined the system so it could be readily integrated into regular day-to-day programming. NBS provided 20 specially-adapted receivers that were used to evaluate the reaction of hearing-impaired viewers to captioned TV.

A new petition based on the PBS refinements was submitted by PBS to the FCC in November 1975.

The FCC ruling on the PBS petition brings new hope to the millions of hearing-impaired Americans who have previously been unable to fully enjoy television. In addition to program captions, the FCC indicated that other uses may be permitted in the future—such as the transmission of time of day, weather reports, and news. PBS now plans to provide program producers and receiver manufacturers with specifications for encoders and decoders, which may be available within a year.

New Book Considers Ways To Improve Consumer Credit

Ceilings on consumer interest rates may reduce credit availability and are not justified in a free enterprise society, according to a recent Commerce report. Additionally, certain collection practices could be eliminated without materially reducing the lenders' power to recover loans or substantially increasing their risks.

The 40-page publication, *Consumer Credit: Factors Influencings Its Availability and Cost,* examines whether these and other practices can be improved so as to increase the flow and reduce the cost of credit to the consumer. It discusses the tremendous growth of credit during the past several years and the increasing awareness among consumers of the intricacies involved in extending credit.

Copies of the brochure are available at $1 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, and many Commerce District Offices around the country.

REPORT LISTS FIRE, WIND SAFETY STEPS FOR MOBILE HOMES

Mobile homes produced today are stronger and better than ever, according to industry experts, but recent research conducted at Commerce's National Bureau of Standards (NBS) finds steps should be taken to make the homes more fire-safe and wind resistant.

Results of Standards' research are being channeled to the Department of Housing and Urban Development for use in evaluating new mobile home standards. Meanwhile, as HUD examines the findings and recommendations of the researchers, NBS provides technical information to assist the decision-making process.

Engineers of the NBS Center for Building Technology have focused on four major areas: energy conservation, fire safety, emergency evacuation and wind loads.

As to energy conservation, NBS engineers studied the thermal performance of a new mobile home in an environmental chamber which could simulate extremely hot or cold weather conditions. Researchers found that the heating plant was considerably oversized, and thus inefficient and unnecessarily expensive to operate.

The heating system was designed to maintain interior comfort when outside temperatures were as low as 50 below Fahrenheit (46 below Celsius). This was much lower than temperatures found in the marketing area for the mobile home. It meant, the engineers said, that the heating plant would operate less frequently during the winter heating season, reducing the plant's efficiency because of heat losses occurring when the plant was not operating.

Pressurization tests helped to identify air-flow paths as sources for potential air leakage. These tests showed that 40 percent of the pressurized leakage occurred through the walls, most of it because of the specific wall-window construction used in the home. Furnace flue and bathroom exhaust vents were found to be poorly sealed, resulting in excess leakage. The engineers also found unsealed penetrations through the ceiling that allowed moisture-laden interior air to rise into the attic space, resulting in excessive condensation under high interior-moisture conditions.

The researchers recommend that a limit be placed on furnace oversizing in order to increase seasonal efficiency; that the insulating effect of draperies, cupboards, closets and similar items be included in standard calculation procedures for heat loss or gain under design conditions; that full-thickness insulation be used in walls and that the installation be done carefully; and that methods be used to reduce air leakage paths and reduce the potential for condensation within the attic.

Edward K. Budnick and David P. Klein of the NBS Fire Center completed a series of 28 tests to evaluate the potential fire hazards in mobile home kitchens. In each test a pan of cooking oil on top of a range was allowed to overheat, thus starting and spreading a fire.

They found that without a range hood and a layer of inorganic insulation beneath the kitchen cabinets that overhang the range, there was a substantial chance that these cabinets would ignite.

Because of these findings, Budnick and Klein recommended to HUD that a sheet metal hood backed by insulation be placed above the range with a minimum clearance of 60 centimeters (24 inches) from the burners. They also recommended limiting the flammability and combustibility of the exposed partition behind the range.

Material tests

Another 38 tests involved igniting a wood "crib" the size of a piece of upholstered furniture to provide information on fire growth and spread with a variety of interior-finish materials. Some of the wall and ceiling materials tested produced excessive temperatures in less than four minutes, indicating a need for improved materials for the wall and ceiling assemblies in the corridors.

In a related research effort, Sanford Adler of NBS made a study of the egress provisions in the housing standard. Using a typical single-width unit, he cut holes in the sides to make room for emergency exit devices, mainly windows. Doors were not part of the study.

Comparing each of the devices with the provisions of the standard revealed that it did not adequately consider the characteristics of newly-designed egress devices or emphasize the primary objective of rapid, safe escape.

The most critical need for emergency evacuation was assumed to be during a night fire when occupants of a mobile home were sleeping. The report says that means of escape should be located so that all occupants physically capable of rational behavior could evacuate unassisted. An egress device should permit 95 percent of all mobile home occupants to get out safely within 30 seconds, the report concludes.

The wind problem, NBS found, is complicated by the fact that local terrain and nearby buildings affect wind speed and turbulence. Moreover, the smaller size of many mobile homes makes them more sensitive to wind gusts than conventional low-rise buildings.

To carry out wind-load studies, Richard D. Marshall, a structural research engineer, placed a typical, single-width unit on a turntable apparatus in an asphalt parking lot. The home was fully-instrumented to measure horizontal drag and vertical lift forces. In addition, more than 100 holes were drilled in the sides, roof and floors, and sensitive instruments were inserted to measure wind pressure.

WIRED FOR FIRE—*Tests conducted by researchers at Commerce's National Bureau of Standards have led to recommendations for improved wind and fire safety in the nation's mobile homes.*

Though he has not completed his analysis, Marshall believes the original wind design loads proposed by HUD are fairly adequate, with some increases required in the uplift loads. Also, loads for the design of exterior paneling, doors, windows, and roof overhangs will be recommended. No problem was found with resonance, the natural swaying of structures in wind.

The last wind test involved the use of hydraulic rams to apply stimulated wind loads on the sides and roof of the test home. Loads corresponding to wind speeds of 94 miles per hour were attained. At this extreme there was some buckling of the end walls and some separation at the roof-wall connection.

To safeguard against extreme wind speeds, Marshall suggests increasing the number of tie-downs passing over the top of the mobile home, near the middle of the structure.

IT'S ALMOST IMPOSSIBLE TO ACCIDENTALLY ERASE MAGNETIC TAPE DATA

There is virtually only one way to erase a tape—use an intense magnetic field at close range.

This is the conclusion of Commerce scientists in the National Bureau of Standards' Institute for Computer Sciences and Technology after an extensive series of tests.

Sidney Geller, Manager of the Magnetic Media Group of the Institute, says the group set out to check the validity of stories such as the one in which an electrician walked into a computer tape library carrying a tool box that included a small magnet, only to discover that when he left the room he had unsuspectingly erased most of the data stored on the tapes.

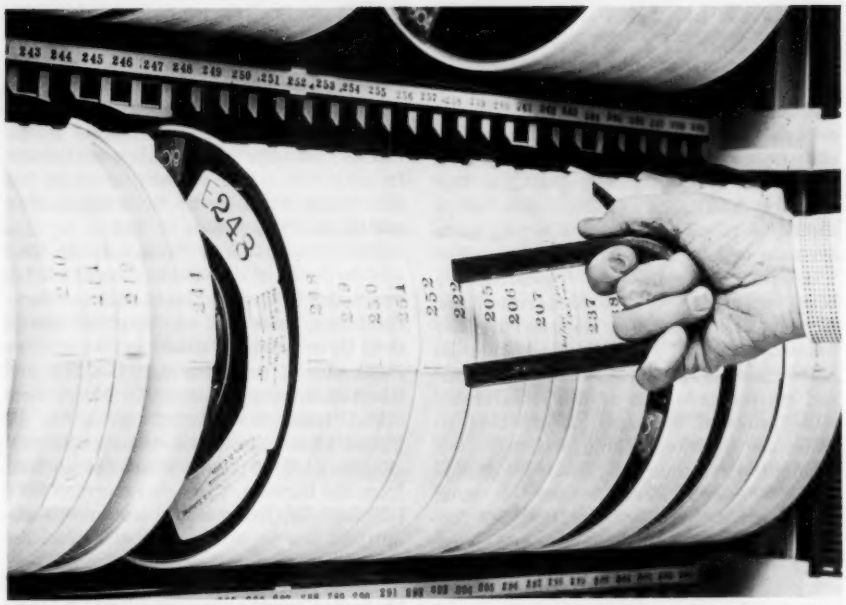
The NBS tests, Geller said, show that the stories of severe data losses from the mere presence of a permanent magnet are not true. However, he added, undetected sabotage is possible and controlled access to tape vaults should be maintained. It was also found, he said, that the duration of exposure of a tape to a magnet has no observable effect on the degree of erasure—the maximum damage is done instantaneously or not at all.

A number of other tests strongly indicated that the magnetically-recorded data on computer magnetic storage media are resistant to almost all forms of energy except for intense magnetic fields at close range. Therefore, methods for detecting the presence of magnetic fields near tape vaults are recommended as a data safeguard. For example, relatively inexpensive walk-through magnetic field detectors are available.

The tests showed that there is no need to shield the data stored on magnetic media against x-rays, high voltage fields, nuclear radiation, high frequency fields, or light energy. They also showed that a distance of as little as three inches will protect the recorded data from more intense magnetic fields than will ever be encountered in a normal operating environment.

Describing tests where erasures did occur, Geller said that the maximum erasure of a tape always took place on the layers of tape closest to the magnet and lessened as the distance from the magnet increased. This happens because magnetic fields decrease in strength very rapidly with distance.

The tests covered varying magnetic fields such as those produced by electric motors, generators, and transformers. These varying fields caused no data erasure, even at very close range, as long as the tapes were encased in their normal metal shields. The erasure produced by a varying magnetic field depends on the peak strength the field achieves as well as the closeness of the media to the device.



STRONG RESISTANCE—*Commerce researchers have found that the only way to erase stored data is by using an intense magnetic field at close range, making it extremely difficult to inadvertently remove information from tapes.*

Airport metal detector and x-ray surveillance devices have also been suspected of damaging or erasing magnetic computer tapes. Airport radar signals have also been regarded as a threat to magnetic computer media.

A series of tests at Dulles International and Washington National Airports found no loss of signal level measured in any tape exposed to these devices.

The airport tests were followed by another series of varied experiments, which also showed no erasure of tapes. They were:

- Recorded tapes and cassettes were taken to the NBS High Voltage Laboratory and subjected to intense electric fields. In addition, arcs were struck onto the magnetic stripe of credit cards by ignition coils.
- Recorded media were subjected to gamma ray doses of 3.0 megarads for 1.5 hours in the NBS gamma ray pool.
- Recorded magnetic stripe credit cards were subjected to a load of 900 kg (2,000 lbs.).
- Recorded media were placed against all of the electrically operated components in the engine compartment of several automobiles.
- Recorded cassettes were placed into the interior and exterior regions of several color television receivers.
- Magnetic stripe credit cards were subjected to temperatures up to 182 Celsius (360 Fahrenheit) and temperatures as low as −51 Celsius (−60 Fahrenheit).
- Recorded tapes were irradiated by microwaves in a microwave oven (not to high temperatures).
- Recorded media were exposed to intense infrared and ultraviolet light.

Drexel University Offers Business Seminars

A series of seminars on topics of interest to business executives is being offered by Drexel University in Philadelphia. The seminars and dates are as follows:

Effective Production Planning and Inventory Control, Feb. 16-17;

Predictive Maintenance, Feb. 16-18;

Improving Marketing Profitability, Mar. 16-17; and

Successful Advertising Techniques, Mar. 16-18.

For further information, contact the Director, Continuing Professional Education, Drexel University, 32nd & Chestnut Sts., Philadelphia, Pa. 19104 (215-895-2154).

Westinghouse Gets Award For Aid To Minority Firms

Outstanding assistance to minority business has won an award of excellence for Westinghouse Electric Corporation's Defense and Electronics Systems Center (DESC) from Commerce's Office of Minority Business Enterprise.

DESC initiated a minority suppliers program in 1973, and since that date has placed a total of $4.603 million business with minority suppliers. Its goal for 1977 is $4 million. By the year 1980, DESC intends to be placing $13.5 million annually with minority companies.

U.S. SATELLITE PICTURES FIND VARIED PEACEFUL USES IN 121 COUNTRIES

Satellites have moved out of the category of Buck Rogers gadgetry and into the workaday world of inventorying forests, catching seal poachers, controlling floods and assisting deep-sea drilling.

In one of the most successful demonstrations of the peaceful uses of space technology, 121 countries around the world receive pictures of their part of the globe several times each day from a polar-orbiting satellite operated by Commerce's National Oceanic and Atmospheric Administration (NOAA).

The satellite, NOAA 5, was launched last July, the latest in a series of spacecraft with the capability of transmitting earth images from outer space.

Following the launch of the first direct readout-equipped spacecraft in 1963, other nations were advised by the United States that they could receive "local" data from the satellite for an investment of about $15,000.

Since that time, more than 800 APT (Automatic Picture Transmission) receivers have been put into operation, not only by government agencies of the 121 countries, but also by academic institutions, scientific groups, local communities, commercial TV stations, Boy Scout troops, and amateurs who enjoy receiving messages from outer space.

Many of the receiving stations are home-made, often constructed for less than $300, and incorporate such items as coat hangers, rolling pins, and other odds and ends to create the three basic elements of a low-cost APT system for acquiring satellite imagery: a VHF band antenna, a receiver, and a recorder.

NOAA-5 continually transmits imagery back to earth as it makes its 13 orbits a day around the globe. As long as the spacecraft is in "sight" of the moveable antenna of an APT station, that station can record the imagery. The more sophisticated receiving stations can produce imagery for each pass of the satellite covering an area about 3,000 miles wide in a swath from pole to pole.

Use of the imagery by foreign governments varies widely depending upon the environmental conditions and concerns of a given nation or region. In North Africa, for example, analysis of satellite imagery by specialists with the Food and Agricultural Organization of the United Nations helps that agency control locusts which pose a serious threat to area agricultural crops.

NOAA-5 also helps ice-watchers in Finland and other Baltic areas. Its pictures let analysts monitor ice conditions and schedule aircraft over-flights to observe what is happening to shipping lanes in ice-choked waters.

Pilots of observation planes on the opposite side of the globe—in Australia—also are directed to specific areas of that continent by satellite imagery analysts monitoring fire conditions. With NOAA-5 pictures a technician can observe the passage of cumulonimbus clouds, with which lightning generally is associated. On the possibility that brush fires may have been ignited by lightning strikes, fire observation flights are flown into areas the cloud mass has passed over.

Pilots of the Royal Canadian Mounted Police use satellite data to help regulate the harvesting of seals in Canadian waters. When satellite imagery shows the ice-pack boundary within certain limits of the nation's coast in areas where seals are found, the Mounties step up their patrol of these areas, on the theory that poachers will move out onto the pack in search of seals.

While these instances are among the more esoteric uses of satellite imagery, almost all nations getting APT direct readout use the information in severe forecasting. From enormous mainland China to the tiny island nation of Seychelles in the Indian Ocean, weather forecasters incorporate material garnered from NOAA-5's pictures with other data in predicting foul weather.

A large number of the private receivers are run by former "ham radio" operators seeking new horizons to challenge. For them, the challenge occurs at least four times every 24 hours as the satellite rises above the horizon and begins its pass over their area. The amateur must calculate the satellite's orbit for a given period, plot the course, lock onto the satellite with the antenna and have all his receiving equipment properly tuned to receive the signal.

Beyond the amateur's control—and perhaps the greatest challenge—is to have all this occur during a period when neighbors are not using electric shavers, sewing machines, lawn mowers, and the like, all of which create electrical interference and often interrupt the picture transmission.

The pay-off, for amateur and professional alike, is a picture of their part of the world from far out in space; a picture giving them the opportunity to observe natural phenomena such as hurricanes, severe storms, cloud patterns, snow cover and even earth eclipses.

Heavy-Lift Ships May Help U.S. Challenge Foreign Monopoly

Two planned ships may help the U.S. merchant fleet venture into waters which are now exclusively the province of foreign ships—the field of heavy-lift cargo, where single units to be shipped weigh more than 50 tons.

Commerce's Maritime Administration has awarded the first U.S. construction-differential subsidy (CDS) contract ever placed for heavy-lift roll-on/roll-off cargo ships.

The award covers two vessels to be built by Peterson Builders, of Sturgeon Bay, Wis., for the American Heavy Lift Shipping Company of Pittsburgh. The Maritime Administration will pay $14.1 million, or more than 42 percent of the total cost of the two vessels. This represents the difference between the cost of building the vessels in the United States and a shipyard in Western Europe.

These vessels will provide the U.S.-flag merchant fleet with the commercial capability to penetrate a freight market now monopolized by foreign-flag ships. The entry of an American corporation into this market will also create greater employment opportunities for American seafarers. These two ships alone, during their 25-year economic lives, will provide approximately 1,000 man-years of employment for U.S. seamen.

Heavy-lift cargo is defined as a single unit weighing more than 50 tons. Some heavy-lift cargoes, such as railroad locomotives, power-plant machinery, and construction equipment, may weigh as much as 500 tons or more per unit. These cargoes are difficult to transport on modern merchant vessels designed to load and unload cargoes in smaller increments.

The new heavy-lift ships will be operated under the U.S. flag by a Gulf Oil subsidiary, Gulf Trading and Transportation Company. They will operate in foreign trade serving all U.S. coasts, including the Great Lakes, and, on occasion, may operate in foreign-to-foreign service, carrying heavy or odd-size cargoes.

The heavy-lift vessels will provide 580 man-years of employment for Peterson Builders shipyard workers, and an equal number of man-years for workers in allied marine supply industries. Each of the twin-screw, diesel-propelled ships will be fitted with two heavy-lift cranes capable of lifting 216 metric tons each or 432 metric tons in tandem. Bow and stern ramps will provide 1,000 metric tons additional capacity for wheeled and tracked vehicles.

With the addition of this contract, the number of ships ordered under the Merchant Marine Act of 1970 now totals 66 vessels aggregating six million deadweight tons.

Bicentennial Year Was Best Ever For Foreign Tourism To U.S.

The Bicentennial Year 1976 proved to be the best year ever for international tourist visits to the United States. This country hosted an estimated 17.5 million international visitors during the year, an increase of 11.3 percent over 1975.

Canada continued to be the top tourist-generating nation, with 11.1 million arrivals, up 12 percent. Mexican visitor arrivals in the United States totaled 1.9 million, a drop of 11 percent from 1975. This decline is attributable to devaluations of the Mexican peso during the last half of 1976, which brought the worth of that currency to a level more than 50 percent below its former purchasing power in the United States.

Japan, the largest generator of travelers to the United States from overseas, showed a 5 percent increase, with a total of 780,000 arrivals. Substantial gains were recorded from Western European markets: United Kingdom, 535,000 arrivals, up 22 percent; West Germany, 370,000 arrivals, up 24 percent; and France, 220,000 arrivals, up 40 percent. Other important tourist-generating countries exhibiting strong growth included Sweden, Australia, Venezuela and Belgium, with increases of 38 to 44 percent.

Estimated U.S. receipts from international visitors totaled $6.8 billion in 1976, a notable 20 percent increase over 1975. An estimated 22.9 million Americans traveled abroad in 1976, down about 2 percent from 1975 departures. Expenditures by these American tourists totaled $9.5 billion, a 7 percent increase over 1975. The travel dollar balance, the difference between the amount spent in the United States by international visitors and that spent by Americans traveling abroad, is expected to be in deficit in 1976 by $2.65 billion, a decrease of 15.3 percent from 1975's $3.13 billion.

United States Travel Service predictions for 1977 are 18.4 million international visitors, a 5.1 percent increase over the 1976 total. Canada, after two relatively strong years in supplying increasingly large numbers of visitors, is expected to moderate somewhat this year. About 6.3 percent more Canadian visitor trips are expected this year than last.

In terms of Mexican travel to the United States, 1977 arrivals are expected to drop 19 percent below last year, reflecting the impact of the peso devaluations and increased passport costs in that country. Japan is expected to continue the recovery begun late in 1976, and show a substantial increase of 20 percent in 1977. Travel from Western Europe, while not matching the large increases in visitors of 1976, is expected to maintain a healthy growth rate during the year—between 13 and 18 percent.

Total U.S. receipts from international visitors, including the amount paid by such visitors for transportation on U.S. flag carriers, is expected to total $7.4 billion, an 8.8 percent increase over 1976. Some 23.5 million Americans are expected to travel abroad in 1977, about 3 percent more than in 1976. They will spend an estimated $10.4 billion, an increase of nearly 10 percent.

The 1977 travel dollar balance is expected to be in deficit by $3 billion, a significant increase of $350 million over the deficit in 1976.

Calendar Of Business Events

Feb. 15—Gaithersburg, Md.—Conference on Computer Security & Data Encryption Standard, National Bureau of Standards. Contact: Anne Shreve, A265 Technology Bldg., NBS, Washington, D.C. 20234 (301-921-3861).

Feb. 15-17—Charlotte, N.C.—South/Atlantic Engineering Conference & Tool & Manufacturing Exposition, Charlotte Civic Ctr. Contact: Tom Akas, Society of Manufacturing Engineers, P.O. Box 930, Dearborn, Mich. 48128 (313-271-1500 ext. 340).

Feb. 15-17—Cincinnati—Thermoplastics & Injection Molding: New Technology & State of the Art Conference, Netherland Hilton Hotel. Contact: Robert Wider, SME, see adress above.

Feb. 15-18—Orlando, Fla.—Advanced Theory, Practice & Control of Injection Molding Seminar. Contact: Donald C. Paulson, CP Plastics Program, Box 59, Southington, Conn. 06489 (203-747-5213).

Feb. 17—Hasbrouck Heights, N.J.—Product Liability Seminar, Sheraton Heights Hotel. Contact: Georgene Savickas, National Paint & Coatings Assn., 1500 Rhode Island Ave. NW., Washington, D.C. 20005 (202-462-6272).

Feb. 20-25—Chapel Hill, N.C.—Basic Industrial Development Course, U. of N.C. (Barry Moriarty, 919-933-8903).

Feb. 21-24—Lansing, Mich.—Marketing, Design, Build & Lease in the Construction Industry Seminar, conducted by Jack Miller. Contact: Madeline Graeter, Group Communications, 6101 Southwest Freeway, Suite 401, Houston. Tex. 77057 (713-664-8818).

Feb. 22-24—Washington — 4th Annual Washington Caucus on Telecommunications, Hyatt Regency Hotel. Contact: Computer & Communications Industry Assn., 1500 Wilson Blvd., Suite 512, Arlington, Va. 22209 (703-524-1360).

Feb. 23-24—Gaithersburg, Md.—Symposium on Flow Measurements, National Bureau of Standards. Contact: L. K. Irwin, Metrology Bldg. B322, NBS, Washington, D.C. 20234 (301-921-2101).

Feb. 23-25—Washington—Economic Growth With Environmental Quality, Hyatt Regency Hotel. Contact: Environmental Industry Council, Suite 210, 1825 K St. NW., Washington, D.C. 20006 (202-331-7706).

Feb. 26—Greensboro, N.C.—Quality & Productivity Seminar, Hilton Inn. Contact: American Apparel Mfrs. Assn., 1611 N. Kent St., Suite 800, Arlington, Va. 22209 (703-524-1864).

Feb. 27-Mar. 4—New York—N.Y. Gift Show, N.Y. Sheraton Hotel & Coliseum. Contact: Irene Weissman, Little Shows, 261 Madison Ave., New York 10016 (212-986-4700).

Feb. 28-Mar. 4—San Diego—Injection Molding of Plastics, Town & Country Hotel. Sponsor: N.Y.U. Contact: Heidi Kaplan, N.Y. Mgt. Center, 360 Lexington Ave., New York 10017 (212-953-7262).

Mar. 1—Houston—Product Liability Seminar, Houston Marriott Hotel. Contact: National Paint & Coatings Assn., see address above.

Mar. 1-2—Los Angeles—Software Mgt.—Phase II: Implementation, Pacifica Hotel. Contact: Helen Flournoy, American Institute of Aeronautics & Astronautics, P.O. Box 1710, Long Beach, Calif. 90801 (213-432-7946).

Mar. 1-3—Houston—Southwestern Engineering Conference & Tool & Manufacturing Exposition, A. Thomas Convention Ctr. Contact: Society of Mfg. Engineers, see address above.

Mar. 1-3—Hartford—Cost Estimating for Press Tooling Clinic, Sonesta Hotel. Contact: Society of Manufacturing Engineers, see address above.

Mar. 3-4—San Francisco—Government procurement conference, Mark Hopkins Hotel. Contact: American Institute of Aeronautics & Astronautics, see address above.

Mar. 7-11—San Diego—Extrusion of Plastics Seminar, Town & Country Hotel. Contact: New York Mgt. Ctr., see address above.

Trade In '76: Export Rise Topped By Import Surge

GROWTH IN U.S. ECONOMY SPARKED STRONG DEMAND FOR FOREIGN GOODS; EXPORT VIGOR DIMINISHED

U.S. foreign trade rose to record levels in 1976, as imports expanded rapidly while exports registered a relatively modest rise. Because of the much faster advance in imports, the merchandise trade balance shifted into deficit from the surplus position of 1975.

U.S. exports, at $114.8 billion, climbed 7 percent above last year's total, the slowest annual increase since 1971. Imports, however, jumped 26 percent to $120.7 billion valued f.a.s. ($129.6 billion c.i.f.), as they recovered from the decline recorded in the previous year. The f.a.s. trade deficit amounted to $5.9 billion ($14.8 billion c.i.f.) in contrast to the record $11 billion surplus posted in 1975.

A number of reasons can be cited for the less vigorous advance in exports. Although foreign economic activity was rising through most of 1976, sales of U.S. products abroad were nevertheless dampened by the lingering effects of the worst post-World War II recession, particularly early in the year when U.S. exports dropped in value.

Sales to the developing countries (LDCs), which accounted for a disproportionate amount of the export increase in the preceding year, were noticeably weaker in 1976. Deliveries to the oil exporters were much less buoyant and those to the non-oil countries, whose external debt problems remained formidable, declined. Investment spending in foreign industrial nations which constitute the major U.S. markets has been sluggish in the past two years, dampening demand for U.S. capital goods. Finally, although the upswing phase of the business cycle abroad had been under way for more than a year, the rebound was sporadic and relatively weak compared to previous recoveries.

The sustained growth of the U.S. economy in 1976 generated a strong increase in demand for foreign goods. Accelerated personal consumption expenditures and a strong increase in industrial production after two annual declines swelled purchases of consumer goods and industrial materials from abroad. A major factor in import growth last year was the sharp swing in the inventory cycle, as stocks were rebuilt following the unprecedented decumulation in 1975. A large rebound in demand for foreign petroleum, coupled with higher prices, added further to the import bill.

U.S. foreign trade prices recorded much more moderate increases in 1976 than in the recent past. As measured by the unit value indexes, export prices rose by 4 percent, the slowest rate since 1972, while the import price increase was only about 3 percent—the smallest in seven years. The volume of exports therefore increased 3 percent, following a drop in 1975. The import advance, however, reflected a 22 percent greater volume in contrast to declines in real terms in the preceding two years.

Nonfarm export growth slows

Exports of manufactured goods and other nonagricultural products continued to expand in 1976. The 8 percent increase in the value of these shipments represented a considerably slower pace than the 12 percent recorded in the previous year and the 19 percent average annual 1970-1975 rate of growth.

The slowdown was evident in sales of machinery, which climbed by one-tenth, half the 1975 rate of increase. The continued slump in investment expenditures in major foreign markets and a smaller increase in deliveries to the oil-exporting LDCs were the major reasons for this reduced growth. Deliveries of excavating machinery climbed by only 8 percent last year, following a jump of nearly 50 percent in 1975, while exports of mining and well-drilling machines barely rose after advancing in each of the four previous years. Shipments of construction tractors declined in value. Farm tractor sales continued to climb on the strength of growing demand from Western Europe, Australia, and Canada, but other farm machinery exports levelled off.

In contrast, strong increases were recorded for some machinery exports. The growth in shipments of computers and parts resumed after pausing in 1975. Boosted by a doubling in shipments to the Near East oil-producing countries, sales of electric power machinery and switchgear recorded a substantial rise. The value of communications equipment shipped to the oil-exporting LDCs and components associated with television manufacturing operations in Mexico advanced sharply. Exports of tubes, transistors, and semiconductors recovered from their 1975 decline, rising by one-third. A large share of these shipments went to U.S. affiliated assembly plants abroad to be used in the manufacture of consumer electronic products, most of which are returned to this country.

Most of the rise in automotive shipments to Canada consisted of parts for assembly in response to a rise in Canadian car production following two annual declines. Deliveries of automobiles to Canada advanced modestly in number, but the quantity of truck exports fell. Motor vehicles and parts shipped to other countries expanded at a much slower rate than in 1975 when the total was swelled by heavy truck deliveries to Iran. Exports of civilian aircraft held level last year. Although deliveries of large passenger transports, and smaller general aviation aircraft increased in value because of higher prices, exports of used aircraft and of military planes fell.

With the revival of foreign industrial production, U.S. exports of some industrial materials rebounded from their depressed 1975 levels. Contributing to the 15 percent advance in chemical shipments were increases of one-fifth each in sales of cyclic intermediates and plastic materials. Largely because of a steep drop in prices, deliveries of chemical fertilizers, however, fell by 43 percent.

Lumber exports rebounded last year, partly in response to an upturn in Japanese construction activity. Much of the rise in paper exports reflected a bulge in shipments to Canada early in 1976 caused by strikes in the Canadian industry. Moreover, deliveries to major markets in Western Europe recovered, and for the

MAJOR U.S. EXPORTS

(F.a.s. transaction values in millions of dollars)

	1974	1975	1976
Exports, total ..	97,908	107,130	114,807
Nonagricultural exports, total	75,648	85,034	91,533
Machinery and apparatus	24,318	29,215	32,111
Construction equipment	4,114	6,108	6,239
Engines and other power generating machinery	2,880	3,547	3,662
Computers and parts	2,198	2,228	2,588
Tubes, transistors, semiconductors ..	1,459	1,266	1,671
Agricultural machinery and parts	1,027	1,456	1,635
Electric power machinery	822	1,032	1,343
Chemicals	8,819	8,691	9,958
Aircraft and parts	4,665	4,831	5,145
Passenger cars and parts to Canada	4,089	4,796	5,538
Trucks	1,140	1,712	1,508
Coal	2,437	3,259	2,910
Iron and steel-mill products	2,500	2,382	1,833
Paper and manufactures ..	1,522	1,447	1,624
Special category (military)	2,096	2,996	2,605
Agricultural exports, total	22,260	22,096	23,274
Corn	3,772	4,448	5,223
Wheat	4,437	5,162	3,880
Soybeans	3,537	2,865	3,315

Note: Totals exclude military grant-aid shipments.

year, exports of paper rose 12 percent.

The nearly one-fourth decline in the value of steel exports mainly reflected lower shipments of tubes, pipes, and other steel products associated with petroleum production. These had risen sharply to the oil-exporting LDCs in the preceding year. As a result of reduced sales to Japan—reflecting large stocks and a relatively slow recovery in steel production there—coal exports dropped.

Following a slight decline in 1975, the value of farm shipments climbed by 5 percent last year. The increase would have been larger had it not been for a decline in average prices. In volume terms, farm sales were up by about 10 percent. Corn exports paced the increase as heavy deliveries to the USSR swelled the total in the first half of the year. The drop in sales to that country in the latter half was compensated for to a large extent by greater deliveries to Western Europe necessitated by drought damage to crops. Exports of soybeans recovered from the large decline in 1975 as a result of increased U.S. supplies and continued strong foreign demand for livestock feed. Other farm products recording significant export gains were meat, fruits, vegetables, and cattle hides. Wheat exports, however, declined by 25 percent because of falling prices and reduced import needs in most major markets because of record production last year.

Imports surge

The rapid upturn in imports was led by a particularly sharp rebound in purchases of consumer goods and another large rise in oil purchases. Reflecting increased personal consumption spending and considerable inventory rebuilding, consumer goods imports were 35 percent higher than in the preceding year. With the recovery in U.S. demand, particularly for larger models, passenger car imports from American subsidiaries in Canada rose about 25 percent in value, after declining in 1975. Despite decreased U.S. sales, automobile imports from other countries advanced at a similar rate, resulting in an addition of over 200,000 cars to domestic stocks. Japanese models accounted for all of the import rise.

Imports of consumer electronics soared to $3.2 billion as a result of growing demand, increased market penetration, and inventory accumulation. A steep advance in receipts of color sets from Japan resulted in a near doubling in the number of imported TV sets compared to 1975. Imports of citizen band radios, which became extremely popular in the past year, more than quadrupled in number. After a sharp drop in 1975, the quantity of imported transistor radios picked up about 35 percent.

Purchases of clothing, primarily from Far Eastern countries, accelerated rapidly after recording only moderate growth in 1975. Also rising at a faster rate were footwear imports from those nations. Toys, sporting goods, and furniture purchased from abroad rebounded strongly following declines in the preceding year.

Increased purchases of petroleum and other fuels accounted for nearly one-third of the 1976 import growth. At $32.2 billion, petroleum imports were 28 percent higher than in the preceding year. This increase reflected a considerable rise in volume resulting from increased domestic consumption and a continuing decline in crude production, together with a 5½ percent higher average price. An additional $2.4 billion of crude petroleum, not counted in Census totals, was imported into the Virgin Islands, primarily to be refined for U.S. use.

Among other fuels, natural gas imports from Canada were 50 percent higher in value because of increased prices. Imports of nuclear fuels were two and a half times larger than in 1975, in part also because of much higher prices. While much of this material was received for processing and reexport, some was purchased for domestic use subsequent to the recent Jan. 1 removal of restrictions on foreign-sourced nuclear fuels.

Imports of industrial supplies other than fuel rebounded in volume, but prices averaged lower. The pickup in the quantity of these imports after two years of decline reflected the strong recovery in U.S. industrial production and the rebuilding of inventories. Imports of nonferrous metals were particularly buoyant.

MAJOR U.S. IMPORTS

(F.a.s. transaction values in millions of dollars)

	1974	1975	1976
Imports, total ..	100,251	96,116	120,677
Industrial supplies, total	51,306	48,820	60,902
Petroleum, total ..	24,668	25,197	32,226
Crude oil	15,332	18,374	25,480
Chemicals	4,018	3,696	4,772
Iron and steel-mill products	4,756	4,037	3,809
Nonferrous metals	3,922	2,581	3,501
Newsprint	1,503	1,427	1,742
Lumber	1,141	866	1,452
Consumer goods, total	25,260	24,081	32,503
Passenger cars			
From Canada ..	2,626	2,803	3,477
From other countries	4,673	4,321	5,451
Automotive parts and engines			
From Canada ..	1,023	1,045	1,560
From other countries	476	428	533
Clothing	2,331	2,562	3,634
Consumer electronics	2,354	1,985	3,242
Footwear	1,134	1,275	1,686
Capital goods, total..	10,754	10,857	13,007
Machinery	8,666	9,007	10,540
Trucks	515	489	695
Foods, feeds, beverages, total ..	10,570	9,645	11,549
Coffee	1,505	1,561	2,632
Fish	1,500	1,356	1,855
Meat	1,353	1,141	1,447
Sugar	2,247	1,865	1,154

Receipts of copper and zinc rose by 75-85 percent in value following large declines in the previous year. Although lower in value, steel imports rose 18 percent in quantity. Demand was especially strong for sheet metal used in the production of autos and other consumer durables. Lumber, newsprint, and chemical purchases from abroad also recovered from their downturn in 1975. A one-third increase in housing starts and a rebound in prices were responsible for the sharp upturn in lumber arrivals. Newsprint imports picked up in both price and volume, following settlement of Canadian strikes which had reduced 1975 shipments.

Paralleling the pattern of domestic capital expenditures, most of the growth in capital goods imports was concentrated in trucks, office equipment, and various types of electrical machinery. Purchases of foreign machine tools and most other heavy industrial and construction equipment changed little from the preceding year. Receipts of aircraft parts and engines from abroad, however, continued to decline as U.S. aircraft production fell.

The $1 billion rise in coffee purchases accounted for well over half of the increase in imports of foods and beverages last year. Though coffee arrivals declined slightly in volume, they climbed steeply in value because of soaring prices which resulted from severe frost damage to Brazilian coffee trees in 1975 and other supply limitations. Higher prices also accounted for most of the rise in imports of fish and meat. In contrast, lower prices caused by a worldwide surplus reduced the value of sugar imports by over $700 million, though quantity rose 18 percent.

BRAZIL'S GROWING PULP, PAPER INDUSTRY ATTRACTS U.S. EQUIPMENT MISSION

Though the Brazilian Government had earlier announced a high priority development commitment to its pulp and paper industry, a U.S. trade mission that recently explored possible resultant equipment sales to the industry was pleasantly surprised to learn how much in practical terms that commitment can mean to them and to other U.S. suppliers.

Through steps already taken, and additional planned projects, Brazil hopes by 1980 to be self-sufficient in paper products and a major exporter of pulp, shipping out about 2 million tons annually. The mission thus returned extremely optimistic about the Brazilian potential for their products, equipment and services, according to the director, James L. Blow of the Commerce Department.

The five U.S. firms comprising the mission offered the Brazilians things ranging from tree seed to technology for reforestation and complete pulp and paper plants, as well as consulting engineering services. The itinerary included Rio de Janeiro, Sao Paulo and Porto Alegre, with a final stop at Lages, Santa Catarina, at the Olinkraft pulp and paper mill.

Strong interest was shown in papermaking machines, stock preparation and wood room equipment, converting equipment, pulp and paper process engineering, and reforestation, Blow reports. The participants are looking toward more than $4 million in orders during the next 12 months. Harvey K. Waters, Whiting Corp., Harvey, Ill., who was seeking a joint venture partner, commented:

"This trade mission gave me an excellent opportunity to investigate several approaches to a joint venture arrangement in Brazil . . . As a result, we will probably set up a joint venture in the near future." Harry H. Boettcher of Black Clawson in Middletown, Ohio, projects for his company an additional $2 million as a direct result of the mission, observing that "the opportunity to make friends and discuss matters of mutual interest with representatives of financial institutions and the pulp and paper industry should be very beneficial to all concerned."

Companhia Vale do Rio Doce (CVRD), a major Brazilian conglomerate, which has had a substantial role in the development of Brazil's mining industry, outlined in detail for the mission members its $2.5 billion program for reforestation and pulp and paper plants in the Northeast. CVRD, in a joint venture with Japan-Brazil Pulp & Paper Co. Ltda., has formed Celulose Nipon—Brazileira, S.A. (Cenibra). The plant, in Belo Horizonte, Minas Gerais, is to have an eventual production of 750 tons of cellulose per day and will represent an investment of $220 million. Flonibra, a company formed by the same partnership, and Floresta Rio Doce, a CVRD subsidiary, also have major planting or production operations.

U.S. companies are also involved in Brazil's pulp and paper future. International Paper Co. is finishing its $125 million pulp and white-paper project. Continental Group, Inc., has joined with the Brazilian Government and a private local company in a $200 million kraft liner board plant. Crown Zellerbach has entered a joint venture with two Brazilian private partners to build a $280 million bleached-pulp plant. According to Brazilian officials, investments of $2.75 billion will be required for achievement of the 1980 goals. Forty per cent of this amount, has yet to be committed.

Members of the mission, in addition to Boettcher and Waters already mentioned, were: Roy Bolton, Bolton-Emerson, Inc., Lawrence, Mass.; William Isaacs, International Forest Seed Co., Birmingham; and Gerald Smith, Jordon International, Portland, Maine.

Computer Software Meeting

Issues associated with computer software needs in the aerospace, defense, and electronics industries will be discussed at a new international meeting scheduled for London, March 21-22. The First Joint European-U.S. Software Management Conference is sponsored by the American Institute of Aeronautics and Astronautics and the British Computer Society in association with the Royal Aeronautical Society and the IEEE Computer Society.

For additional information, or to register, write: AIAA Conferences, 444 W. Ocean Blvd., Suite 1403, Long Beach, Calif. 90802; telephone, 213-437-7465.

Multilateral Trade Negotiations

This article is another in a series of progress reports on the multilateral trade negotiations, prepared by the Commerce Department Office of Int'l Trade Policy.

WASHINGTON

Consultations between the **Industry Sector Advisory Committees** (ISACs) and high level government representatives are entering a new, intensive phase, the Commerce Department and the Office of the President's Special Trade Representative have announced. The ISACs in the past have met in groups of five or six committees at plenary sessions, followed by brief individual consultations. The new schedule has a series of individual meetings in Washington for all 27 of the committees.

The schedule: ISAC 1, April 19-20; 2, May 18-19; 3, May 25-26; 4, April 5-6; 5, April 27-28; 6, March 22-23; 7, March 29-30; 8, March 16-17; 9, March 9-10; 10, April 13-14; 11, open; 12, Feb. 16-17; 13, March 23-24; 14, April 26-27.

ISAC 15, Feb. 23-24; 16, March 1-2; 17, April 6-7; 18, Jan. 11-12; 19, April 20-21; 20, April 12-13; 21, March 2-3; 22, March 30-31; 23, Feb. 22-23; 24, June 21 only; 25, March 8-9; 26, May 17-18; 27, May 24-25.

GENEVA

The **Nontariff Measures (NTM) Group** met Jan. 13 and adopted notification, consultation, and reporting procedures for nontariff measures not being dealt with multilaterally. This decision followed agreement that notifications and reports on NTMs covering agricultural products would be circulated to both the Agriculture Group and the NTM Group.

The NTM Group also agreed to ask the Secretariat to compile a comprehensive list of product-specific NTMs for eventual inclusion in the GATT's tariff rate information files.

The U.S. noted the recent GATT panel findings on the DISC and related tax practices in France, the Netherlands, and Belgium, and suggested the need for international examination of the effect of varying tax practices on world trade. There was, however, no agreement to undertake such an examination at this time.

The NTM Group also discussed the advisability of establishing new subgroups on anti-dumping and on variable levies/minimum import prices. There was no consensus to set up new subgroups; this matter will be treated subsequently.

MTN MEETINGS

The winter schedule of the various negotiating groups and subgroups:

Agriculture Group, March 28; Framework Improvement (GATT Reform) Group, Feb. 21; Safeguards Group, Feb. 14; Tariffs Group, in March; Nontariff Measures Group, April 18; Sectors Group and Tropical Products Group, open.

Agricultural Subgroups on Dairy, Grains, Meat, open. Nontariff Measures Subgroups: Customs Matters, Feb. 21; Government Procurement, March 3-4; Quantitative Restrictions, March 9-11; Standards, March 9; Subsidies and Countervailing Duties, Feb. 28-March 2; Technical Ad Hoc Licensing, March 7-8.

Mineral Finds In Indonesia, Malaysia Spur On-Scene Sales Seminars By U.S. Suppliers

New mineral finds in both nonferrous metals and coal in Indonesia and Malaysia prompted the Commerce Department recently to send a technical sales seminar group to conduct sessions in Jakarta and Kuala Lumpur.

Representatives of U.S. equipment manufacturers discussed details of drilling and blasting, loading, transportation, and mineral processing—focusing on promoting the sale of U.S.-manufactured mining industry products.

According to the seminar chairman, Sheldon P. Wimpfen, chief mining engineer of the Interior Department's Bureau of Mines, the participants reported excellent contacts, particularly in Indonesia, where the markets for heavy equipment appear more imminent than the longer term developments expected in Malaysia. Some $4.7 million in 12-month sales is anticipated by the seminar group in Indonesia; two agents were signed in that country.

Participating companies were Ingersoll-Rand, Marion Power Shovel, Clark Equipment Co., WABCO, Joy Manufacturing, and Dravo. The Dravo presentation was a wrap-up of the organizational engineering and design steps required from the discovery of a mineral occurrence through exploration, development, and production.

TIN MINING IN MALAYSIA—*Members of a Commerce Department technical sales seminar group observe recovery of ore containing tin through a dredging operation near Kuala Lumpur, Malaysia. The group also visited mineral operations in Indonesia.*

EEC Studies Alcohol Policy; U.S. Industry Views Sought

The European Common Market nations are considering a new joint policy to govern their trade in ethyl alcohol and alcohol products of agricultural origin, including some wines and spirits. U.S. enterprises that may be affected by the proposal are being asked by Commerce Department trade specialists to submit comments on it. An official response is being prepared by American negotiators.

The proposed common agricultural policy on alcohol, announced Dec. 31, is the second such EEC effort in this field. A similar proposal made in 1972 failed to win agreement among the Common Market nations. Though the new proposal is expected to be under study for an extended period, its potential trade impact warrants prompt consideration by U.S. interests. Written comments are being sought by March 7.

The proposal has three major aspects: a common marketing organization to handle target prices, market guarantees and production quotas; an import regime to replace existing tariff schedules, and a system of export subsidies. There are also provisions for protection against market disturbances.

A copy of the proposal, which is contained in the Dec. 31 issue of the "Official Journal of the European Communities," may be obtained from: Harold A. Bratt, Director, Industrialized Nations Division, Office of International Trade Policy, Room 3053, U.S. Department of Commerce, Washington, D.C. 20230. Comments on the proposal should be addressed to that office.

PLAN EXPORT ASSISTANCE FOR MINORITY-OWNED FIRMS—*Two Commerce Department units, the Domestic and International Business Administration (DIBA) and the Office of Minority Business Enterprise (OMBE), are stepping up their cooperative efforts to identify sales opportunities abroad for U.S. minority-owned firms. Plans for seminars, consultations, and help with market research, financing, distributorships and trade promotion are discussed here by (from left): Raymond Robinson, Grace Haskins and Robert G. Shaw, all of DIBA, and Richard Clinkscales, of OMBE.*

International Show In Israel To Feature Office Equipment

An Exhibition of Office Efficiency, EOE '77, will be held in Jerusalem May 31-June 6 to display office furniture, typewriters, copying machines, calculators, furniture and tools for draftsmen, writing instruments, cash registers, computers and other types of office equipment. Potential Israeli buyers, representatives of institutions and the general public will be invited. The contact is Moshe Pesso, Director General, Yeridei Ha-Umah Events & Exbns. Ltd., P.O. Box 2333, Jerusalem.

Senegal Continues Advance; Successful Dakar Trade Fair Heightens Business Interest

Senegalese agricultural and industrial production continued to advance during 1976, although at a slower rate than in 1975, according to the U.S. Embassy in Dakar. Higher production of major export commodities in the West Africa country was offset somewhat by lower prices on international commodity markets. Progress was marked in financing and implementation of plan projects, and effective price control policies kept the rate of inflation under 5 percent. For the United States, notable points included a continuing strong export performance, business interest in a number of major projects, and successful participation in the Dakar International Trade Fair.

Official investment and borrowing is guided by a four-year plan which is prepared and carried out with more care in Senegal than in many developing countries. The current plan (mid-1973 to mid-1977) calls for $1.433 billion in project investment, of which $1.135 billion had been pledged as of August 1976 (including $9.2 million from U.S. AID). More than two-thirds of the projects were in an implementation phase or had been completed as of that date. The IBRD and African Development Bank financed $160 million in untied projects, notably in agriculture, roads, railroads and environmental improvement. Canada, France, the People's Republic of China, Iran and Saudi Arabia were also large donors.

Focusing on Fifth Plan

The Fifth Development Plan, to be released in 1977, is expected to call for $1.75 billion in productive investment net of interest in the subsequent four-year period. Some of the major projects will be: urban development of St. Louis, Senegal's former capital ($75 million); irrigated perimeters along the Senegal River Valley; Port Sedar refinery/phosphate mine ($200 million); Tobene iron ore extraction ($100 million initially); ilmenite (mineral sands) mining ($50 million); hydro-agricultural development of the Gambia and Casamance River basins ($20 million in studies); and the Dakar supertanker repair facility ($100 million). Many of these projects, currently in formulative stages, could present oportunities for American firms, particularly those able to assist in obtaining financing.

The United States is the second largest supplier to Senegal after France, but its market share amounts to only 7 percent. During 1977 Senegal is expected to align itself with most of the LDC signatories of the Lome Convention and end preferential tariffs on imports from the European Community. This will present many new export opportunities for U.S. firms, especially for consumer goods suppliers. (Most capital equipment currently enters duty-free regardless of source.) However, lack of effective local representation is a major obstacle to additional U.S. sales in Senegal.

Where potential is greatest

The following product categories have the greatest incremental sales potential: building and construction equipment; energy systems; airconditioning-refrigeration, radio-communications and navigational equipment; and fisheries supplies and equipment. A technical sales seminar in water resources management is scheduled to visit Senegal and Nigeria in October, and a commercial fisheries trade mission is scheduled for Senegal and Mauritania in July 1978. The U.S. Embassy will be preparing market research in advance of each of these events which will be available to interested participants through the U.S. Department of Commerce. The Government of Senegal plans to mount its own trade show in commercial fishing in February, and an agricultural equipment show in December.

Sixteen U.S. firms participated in the American exhibit at the Second International Trade Fair of Dakar in December. The experience of firms which participated in the 1974 and 1976 Dakar Fairs indicates that this can be an effective means of obtaining local representation. The next International Trade Fair in Dakar is scheduled for December 1978.

Senegal is actively searching for foreign investment in tune with local priorities. An attractive investment code offers tax and other concessions for foreign investors, and the legislation is supported by Senegal's record of equitable treatment of investors since independence in 1960. A study recently prepared by a local economic consulting firm underscores agribusiness, textiles and building materials as three sectors where foreign investment is particularly desired. Senegal has maintained a stable political environment since independence, and it is government policy to promote the development of a full-fledged multi-party political system.

Current American investment in Senegal is approximately $30 million. U.S. fixed asset investment is largely limited to petroleum and phosphate mining, although a number of banking and other firms have representational offices in Dakar or have interests in European banks which are shareholders in Senegalese institutions.

Better Weather In Sri Lanka Improves Economic Prospects

Weather dominated Sri Lanka's economy in 1975 and 1976, as severe drought resulted in poor rice harvests both years, according to the U.S. Embassy in Colombo. Increased output in the manufacturing and services sectors boosted real GNP growth slightly to 3.6 percent in 1975, but preliminary indications point to a lower rate of growth in 1976. Rains in the latter part of 1976 are the basis for government predictions of improved rice production and economic growth this year in the Indian Ocean country, formerly called Ceylon.

Although economic prospects for 1977 are the best in several years, basic structural problems remain. These problems are highly interrelated and include (a) inadequate domestic food production, (b) a continuing dependence on three basic agricultural products (tea, rubber and coconut) for most of the country's foreign exchange earnings, (c) a steady increase in domestic and foreign debt, and (d) underutilization of productive capacity and high unemployment. Moreover, government policies continue to emphasize state control of the economy, income redistribution, and subsidized consumption, rather than just investment and growth.

United States-Sri Lanka trade is not large. In 1975, imports from the United States (including freight) amounted to $48 million (6.3 percent of total imports), over half of which consisted of PL-480 wheat flour. This was more than double the value of imports from the United States in 1974, due to a large increase in the PL-480 program. Exports to the United States totaled $31 million in 1975, mostly tea and some rubber.

Small, remote market

The smallness and remoteness of Sri Lanka's market, coupled with its relatively low level of economic activity and the chronic shortage of foreign exchange, limit the country's potential for American exporters. In 1975 the United States ranked seventh, after the People's Republic of China, Saudi Arabia, Japan, Australia, France and Thailand, as a supplier of imports.

Despite stringent import restrictions, U.S. firms may be able to develop sales through response to government tenders. Foodgrains (in addition to PL-480), light machinery for industry, agricultural machines, office equipment, hardware, chemicals and pharmaceuticals are imported

on a monopoly basis by government entities for retail sale to the public. Many other items are imported directly by government agencies for their own use. Information on government tenders is available through the U.S. Department of Commerce and from the Sri Lanka Embassy in Washington. Favorable credit terms are almost invariably an element in winning supply contracts.

U.S. direct investment in Sri Lanka is presently estimated at approximately $2 million. Because of the nationalization of tea estates and other foreign-owned companies, total foreign direct investment has declined over the past 20 years. With the notable exception of Japanese joint ventures in the local production of ceramics and textiles for export, and foreign participation in tourist hotels, there has been virtually no new foreign direct investment in Sri Lanka in recent years. While the June 1972 White Paper entitled "Policy of the Government of Sri Lanka on Private Foreign Investment" encourages such investment, a long history of government takeovers of both foreign and locally-owned businesses has made investors wary.

Following the September 1975 departure of the Trotskyite Marxist LSSP Party from the United Front Government (leaving the Sri Lanka Freedom Party dominant, with the Communist Party holding one ministerial portfolio) there appeared to be a shift toward more pragmatic economic policies. In his November 1975 budget speech before Parliament, the newly-appointed Finance Minister Felix Bandaranaike proposed a Foreign Investment Authority Law to give specific legal guarantees for the repatriation of capital, profits and dividends, and to limit the conditions under which the government would nationalize a foreign company. He also invited existing and new foreign banks to participate in financing the country's development. Strong political opposition, however, has prevented implementation of these proposals.

Trinidad & Tobago Goes Metric

The Comptroller of Customs and Excise for Trinidad and Tobago has given notice that all customs documents and statistics for imports and exports must now be stated in metric units. U.S. exporters to Trinidad are urged to begin using appropriate metric units in their shipping documents immediately.

Exceptions to this requirement are beer made from malt; ethyl alcohol or neutral spirits, undenatured and higher than 140 proof; denatured alcohol of any strength; spirits other than those under BTN heading 22-08; and concentrated extracts for the manufacture of beverages.

Calendar For World Traders

Feb. 15—Memphis—World Trade Club meeting, Southwestern Univ.

Feb. 16—Cleveland—Seminar on Increasing Exports to West Germany, Mid-Day Club. Presented by the German American Chamber of Commerce in New York, in cooperation with Cleveland international banks and International Division of Greater Cleveland Growth Assn. Information: 216-621-3300.

Feb. 16—Seattle—First of four Wednesday meetings to discuss Basics of World Trade, Seattle Chamber of Commerce. Sponsors: Seattle District Office, Seattle Chamber's World Trade Comm. Other sessions will be held March 2, 16 and 30. Reservations: 206-447-7251.

Feb. 17—Chattanooga — World Trade Council meeting, Read House.

Feb. 17—Milwaukee — Legal Considerations Abroad workshop, U.S. Courthouse. Sponsors: District Offices of Small Business Administration, Commerce Department.

Feb. 17-18—New York—American Management Associations seminar: How to Work Successfully with Foreign Nationals.

Feb. 18—Boston—International Business Center of New England and German American Chamber of Commerce seminar on Export Opportunities in West Germany, IBC Headquarters. Information: 617-542-0426.

Feb. 18—Chicago — International Trade Club conference on Energy, Oil and the Arab Boycott, Continental Plaza Hotel.

March 1—New York—FCIB Roundtable luncheon conference on International Finance, Credit, Collection and Exchange Problems.

March 4—Atlanta—FCIB Forest Products Export Credit Group luncheon meeting, Peachtree Plaza Hotel.

INTERNATIONAL BUSINESS REPORTS

Management International Business Information Kit: Checklists for the International Business Executive. 3rd edition. Published by the Southern California District Export Council. 80pp. $9.75.

Contains 28 checklists on pertinent aspects of doing international business, each prepared by a leading expert in the field from the Southern California international business community. A sampling of the index includes checklists on: International Market Research; Finding Foreign Distributors; Export Financing; Setting up a DISC Corporation; Calculating Export Prices; Foreign Patents, Trademarks, Company Names; Considerations in Establishing Subsidiaries and Affiliates or Plants Abroad; Establishing Repair and Maintenance Facilities Abroad.

Write: Southern California District Export Council, U.S. Department of Commerce, 11777 San Vicente Blvd., Los Angeles, Calif. 90049.

Introduction to Export Management. By Laurence P. Dowd. 202pp. $5.50.

The major objective is to provide practical knowledge of export management for those not experienced in the field. The text includes organization for exporting; management of export functions, including sales promotion, physical distribution services, pricing, financing, and risk-taking; and management responsibilities for documentation necessary for a typical export shipment.

The author is a Professor of World Business at San Francisco State University. He has taught and consulted in the field of international management for more than 35 years.

Write: El Jay Press, 3047 Hillside Dr., Burlingame, Calif. 94010.

The International Consultant, by H. Peter Guttmann. Published by McGraw-Hill. 193 pp. $16.50.

This one-volume guide is aimed at assisting independent consultants in engineering, architecture, planning, economics, education, and business administration. It discusses proven techniques in identifying and obtaining foreign business, listing many governmental and private enterprise sources. It explains preparation of proposals and negotiating for overseas work, personnel policies abroad, and financing an international operation. A separate section examines international development institutions and financing agencies as they affect consultants.

The author has more than 30 years of professional experience, and has been active in writing, lecturing and the work of the International Engineering and Construction Industries Council of the U.S.A.

Write: McGraw-Hill Book Co., 1221 Ave. of the Americas, New York, N.Y. 10020.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about upcoming trade exhibits and trade missions, licensing and joint venture proposals, opportunities to sell to foreign enterprises, visiting buyers, and details on major construction and expansion projects.

U.S. Promotions Abroad

For more facts on these and other U.S. exhibitions write: Director, Office of International Marketing, Rm. 4015, U.S. Department of Commerce, Washington, D.C. 20230. For trade missions: Rm. 6051, U.S. Department of Commerce, Washington, D.C. 20230.

U.S. Fishing Industries Catalog Exhibit. New Zealand & Australia. April 12-29. As part of a concentrated effort to increase exports, New Zealand is expanding all phases of its fishing industry, from catching to processing. The New Zealand Government's FY1977 budget includes special incentives for expansion, such as a 40 percent investment allowance on expenditures for new fishing boats and new fish farming plants and machinery. Tax provisions have been extended and government loans have been broadened to include shell and fresh water fishing development. Such factors as mounting demand, tariff reductions, and currency revaluations have combined to produce record levels for U.S. exports to Australia and indicate continued growth of imports over the long term. The fishing industry in Australia is large. Although only about 25 percent of the registered vessels are over 10 meters in length, a number of well-equipped double-rigged prawn trawlers of 20-25 meters have recently been built. Products of most interest are sophisticated equipment, such as echo sounding devices, advanced trawling gear, and automatic shrimp shellers. Catalog Exhibit Section, 202-377-3973.

Agricultural and Food Processing Equipment. Budapest. April 15-20. Hungary relies on exports of agricultural products and processed foods to earn hard currency. AGROMAS EXPO is an opportunity to meet Hungarian buyers and end-users at a specialized commercial exhibition. Mike Frisby, 202-377-5186.

Electronics Industry Production and Test Equipment; Tandem Exhibitions at U.S. Trade Centers in Stockholm, April 18-21, and London, April 26-29. In Sweden, products expected to grow in demand through 1978 include test equipment, semi-conductor production equipment with wiring assembly and other interfacing equipment. In the United Kingdom, strong interest in the latest state-of-the-art in test and measurement equipment, integrated-circuit production equipment and other component production equipment has been expressed. William G. Stepp, 202-377-4602.

Hydraulic, Pneumatic and Advanced Fluid Power Systems, Equipment and Components Exhibition. U.S. Trade Center, Tokyo. April 18-22. A seminar will be included. The Japanese recognize superiority of U.S. production. In 1975 the market for both hydraulic and pneumatic power systems was $519.7 million. The market in Japan for hydraulic power systems will grow 10 percent annually for some time, while annual growth for pneumatic power systems will be somewhat less. John Wolf, 202-377-4390.

Automotive Maintenance and Servicing Equipment Exhibit. U.S. Trade Center, Taipei. April 18-22. Taiwan is a promising market for manufacturers of hand and power tools, wheel balancing, front end alignment, brake testing and repair, safety testing equipment, spark plugs, polishes and lacquers, cleaning and car washing machines. Andre Williams, 202-377-3137.

Plastics Production Machinery and Equipment Exhibition. U.S. Trade Center, Mexico City. April 18-23. Mexico's plastics industry is expected to register especially rapid growth over the next few years. Consumption of plastics production machinery has been increasing at almost 15 percent annually, to $35.2 million in 1976. Some 85 percent must be supplied by imports, and the U.S. is the major supplier. Mary R. Wiening, 202-377-4463.

Scientific and Industrial Laboratory Instruments Exhibition. U.S. Trade Center, Paris. April 19-22. In 1975, the French market for laboratory instruments amounted to $154 million. Most was supplied by imports, of which the United States accounted for 30 percent. Imports from the U.S. are expected to continue providing about one-third of total imports of a market which in 1980 should be about $240 million. Market research shows a good market for chromatographs, mass spectrometers, oscilloscopes, N.M.R. spectrometers and automatic analyzers. Ned Krause, 202-377-5381.

Business U.S.A.—A Business Equipment Exhibition. Hong Kong. April 25-29. Automation of office procedures and a large demand for modern business equipment in Hong Kong will result in yearly market growth of 32 percent between 1976 and 1979. Imports are projected to reach $54 million by 1979, double the level of 1974. A full range of electronic office machines, copying/duplicating equipment, microfilm equipment, electronic banking machines, letter handling/addressing/mailing machines, paper/check/coin-currency handling machines, and dictation equipment is required for all phases of the business community. Joseph Burke, 202-377-5285.

Printing & Graphic Arts Equipment Exhibition & Seminar. U.S. Regional Trade Center, Singapore. April 25-29. Market research indicates that an exhibition to capitalize on U.S. market share growth potential is warranted. The revaluation of German and Japanese currencies has made U.S. equipment even more attractive. U.S. suppliers now have an excellent opportunity to effectively compete with third country sources. J. Lee Barnes, 202-377-3893.

Industrial Process Controls and Instrumentation Exhibit. Caracas. April 25-30. Venezuela, buoyed by oil income, is attempting to establish a modern industrial economy in the shortest possible time. Industrial process controls will be playing a major part in this development. By 1978 at least 90 percent of process control requirements will still be filled by imports and U.S. manufacturers are expected to hold a 64 percent share of the $32 million market; this is equal to a 16 percent annual growth rate over the $15 million imported in 1975. Hans J. Amrhein, 202-377-2332.

Petrochemical Equipment Trade Mission. UAE, Kuwait, Syria, Greece. April 27-May 9. Will feature equipment and services for planning, construction and equipping of petrochemical projects in these three countries. Excellent opportunities exist in Abu Dhabi for firms interested in joint ventures for low density polyethylene, vinyl chloride monomers, and PVC. Good markets exist in Kuwait for all types of equipment used in refineries, LPG processing, aromatics, and ethylene, including such items as process control equipment, pumps, compressors, turbines, vessels, heat exchangers, and major structural items such as fractioning towers. Syria's ambitions center on the proposed construction of a $300-350 million complex, tentatively to be located in north-central Syria near the pipeline from the Syrian old fields. Three major projects in the petrochemical sector are developing in Greece. Contact Wanda Ale, 202-377-3119.

Food Processing and Packaging Equipment Catalog Exhibit. Valencia, Spain. April 30-May 8. This market in Spain offers increasing sales opportunities as changing consumer tastes and new government programs stimulate rapid growth in the food processing industry. The resultant growth will strengthen existing markets for high capacity automated machinery and create new demand for the technologically sophisticated equipment offered by many U.S. manufacturers. Estimates place 1978 sales of FPP equipment at well above $100 million, with over 20 percent coming from imports. The food processing equipment market is forecast to exhibit particularly rapid growth stimulated largely by a government-promoted trend towards prepackaging of items traditionally sold in

bulk. Catalog Exhibit Section, 202-377-3973.

Outdoor, Leisure and Recreation Equipment Exhibition and Seminar. U.S. Trade Center, Sydney. May 2-6. The combination of greater leisure time and new levels of affluence has created a surging interest in outdoor recreation in an already sports-minded continent. Dramatic increases in consumption, up 50 percent in the past two years, have pushed annual retail sales of this equipment over the $146 million mark. U.S. suppliers will find a wide range of products with high sales potential. Lars Lofas, 202-377-3646.

Food Processing and Packaging Equipment Trade Mission. Belgium, Netherlands, Luxembourg. May 2-14. Some of the areas this mission will cover are food processing equipment embodying advanced technology in such areas as heat exchange, blending and proportioning, food freezing, aseptic processing systems, food fabricating and extruding. In packaging, specific areas will be automated packaging systems which save substantially on wage costs, i.e., can handling equipment, sanitation equipment for canning lines (such as the U.S. systems called C.I.P.—clean in place), electronic check weighers, and industrial bakery equipment (complete lines only). Contact Robert Bucalo, 202-377-4918.

Food Processing and Packaging Equipment Catalog Exhibit. Panama, Costa Rica, El Salvador. May 4-18. Larger integrated food processing operations in Central America have become commercially feasible as a result of establishment of the Central American Common Market (CACM), among Guatemala, Honduras, Costa Rica, Nicaragua and El Salvador, and the emergence in these countries and in Panama of an increasingly prosperous middle class which is generating demand for a broad variety of foods. Since the U.S. already accounts for nearly three-quarters of the area's imports of food processing and packaging equipment, U.S. manufacturers are in excellent position to capitalize on the growing potential of this market. Business conditions in El Salvador are favorable as a result of demand in the international market for the country's main exports: coffee, sugar, cotton, and shrimp. Imports into El Salvador of food processing and packaging equipment were worth $1.7 million in 1975, and consumption is expected to increase through 1980. Costa Rica is projected to undergo steady expansion over the next few years, as a result of the enthusiastic search by producers for improved technology and more efficient production methods. Food processing is steadily increasing to meet the requirements of a relatively affluent population in urban centers as well as the requirements arising from Panama's service industry roles. In addition, the demand for processed foods also is influenced by the buying habits of a large number of U.S. residents in Panama and the Canal Zone. Catalog Exhibit Section, 202-377-3973.

Plastics Production Equipment and Technology Technical Sales Seminar. Poland, Czechoslovakia, Romania. May 5-19. Plastics production in Poland has been increasing rapidly. Poland's overall output of plastics increased from 257,000 metric tons in 1971 to 433,000 in 1975. In the Five-Year Plan (1976-80), investment funds have been earmarked for expanding plastics production facilities. The petrochemical industry holds a leading position among growth industries in Czechoslovakia and will continue to receive high priority during the 1976-80 Five-Year Plan period. Plastics output rose from 245,000 metric tons in 1970 to 428,000 in 1975. The current plan period projects that plastics output will more than double to 940,000 metric tons by 1980. Romania's chemical industry, which already ranks 10th worldwide in output, is to continue its rapid development under the 1976-80 plan. Annual growth has been set at 10-12 percent, somewhat below the 18 percent achieved during the 1971-1975 period, but still the highest growth target for any industrial sector. Romania's plastics output increased from 251,000 metric tons in 1971 to 347,000 in 1975. Tony Bilecky, 202-377-2801.

Industrial Assembly Equipment Exhibition. U.S. Trade Center, Paris. May 9-12. In 1975 the French spent $712 million on industrial assembly equipment. Recently conducted market research indicates that French investment in this equipment is expected to jump 30 percent by 1978 to $925 million. Due to rapidly increasing labor costs, there is currently in France a high degree of interest in increased productivity. George Ruffner, 202-377-5381.

Mini-Computer, Peripheral and Data Communications Equipment. U.S. Trade Center, Milan. May 10-14. The Trade Center's promotional efforts during the most recent show resulted in $7 million in immediate sales and $32 million in projected sales for the 91 participants. These exhibitions are well attended by dealers, importers, distributors/agents and other buyers/end-users. The preceding exhibition drew more than 2,000 blue ribbon prospects. Call 202-377-3462.

Food Processing & Packaging (FPP) and Agricultural Machinery & Equipment (AGME). Novi Sad, Yugoslavia. May 13-22. Yugoslav imports of AGME and FPP are forecast at $95 million and $55 million, respectively, for 1977. Government officials have recently designated self-sufficiency and increased export potential in these industries as a top national priority. A full range of processing, forming, filling, sealing, wrapping and packaging equipment is required in FPP; opportunities for sales of AGME include all varieties of planters, spreaders, dryers, loaders, and large combines, planters and harvesters. Contact Kenneth Nichols, 202-377-2762.

Telecommunications Equipment Exhibition. U.S. Trade Center, London. May 16-20. The U.K. import market for communications equipment reached $176.9 million in 1974 and, after a decline in 1975, is expected to grow by 13 percent annually to more than $308 million by 1980. U.S. exports represented 25 percent of 1974 imports. American-made equipment is sought for its high level of sophistication, technological reputation, and uniqueness. Thomas L. Thomas, 202-377-3459.

Containerization Technology Exhibit/Seminar. U.S. Commercial Office, Moscow. May 16-20. The USSR's Five-Year Plan for 1976-80 calls for increased use of containers in rail, sea and river transportation. In Leningrad alone, an international container port is to be completed by 1980 with initial handling capacity of two million containers annually and four-million container capacity by 1980. Call Alice Clark, 202-377-2348.

Metalworking Equipment Exhibition. U.S. Trade Center, Taipei. May 16-20. As an integral part of its plan to accelerate the development of capital- and skill-intensive industries, the government is encouraging the importation of sophisticated, precision machine tools and metalworking equipment. Imports of such high priority machinery are expected to exceed $200 million during the 1977-79 period, and U.S. goods are now favored because of their quality, durability, and high performance. Dave Horridge, 202-377-2798 or 5545.

High Performance Production Materials. U.S. Trade Center, Stockholm. May 24-27. Special promotion to original equipment manufacturers in Sweden, Norway, Denmark and Finland of selected U.S. materials and milled products of these materials, including ferroalloys, nonferrous metals, nonferrous metal alloys and plastics. The total current market for high performance production materials in the Nordic countries is over $6 billion. The Swedish market alone in 1975 totaled $4 billion, and is expected to expand to $5.7 billion by 1980. Imports supplied 23 percent of the 1975 Swedish market, of which 75 percent was consumed domestically. William Beiring, 202-377-3276.

Tandem Exhibitions: Health Care Industries, U.S. Trade Center, Paris, May 31-June 2; Interhospital '77, Hanover, Germany, June 7-10. French and German plans call for additional skilled technicians, expanded hospital and clinical facilities and a host of special research programs covering various terminal and incapacitating diseases. Approximately 35 U.S. manufacturers will participate in these exhibitions. Tandem scheduling makes this "double exposure" possible for a minimal investment of both time and money. Robert B. Wallace, 202-377-3748.

In-Store Promotion, Georges Australia Ltd. Melbourne. June. Will feature U.S. men's, women's and children's wear, accessories, housewares, household linens, cosmetics and stationery. Store contact: Alan M. Forbes, Mng. Dir., Georges Australia Ltd., 162 Collins St., Melbourne. U.S. buying office: Mutual Buying Syndicate, Attn. Camille Galbo, V.P., 11 W. 42 St., New York, N.Y. 10036. Mollie Cleveland, 202-377-4705.

U.S. Pavilion, 32nd Paris Air Show. June 2-12. Internationally long recognized as the key marketplace for the aerospace industry, the biennial Paris Air Show regularly attracts the largest international audience of industry, government and military aerospace buyers. With the total value of U.S. areospace exports for 1976 estimated to exceed $7.6 billion, the aerospace industry continues to be the largest exporter among U.S. manufacturers. In 1975, the 68 exhibitors in the U.S. Pavilion reported $2.84 million in off-the-floor sales and projected an additional $92.8 million in 12-month sales. Beryl D. Cohen, 202-377-4961.

Industrial Training Aids and Audio-Visual Equipment. U.S. Trade Center, Paris, June 6-9, and U.S. Trade Center, Milan, June 14-17. In recent years consumption of advanced industrial training aids and professional level audio-visual equipment has been increasing dramatically in both France and Italy. Both markets are heavily dependent upon imports to satisfy their individual demands for the more sophisticated equipment, technology, systems and software. The U.S. is a major source of supply and the U.S. market share is increasing steadily in both locations. Current market research has iden-

tified several specific product categories that seem particularly likely to benefit from a major U.S. export promotion effort at this time. These unique, tandem, adjacent-country overseas marketing opportunities are being made available to export-minded American firms desiring to penetrate or to increase their current sales volume in two of the world's major markets. Robert J. Blake, 202-377-4605.

Printing & Graphic Arts Equipment Catalog Exhibit. Lagos, June 6-10. The expansion and modernization under way in the printing industry of Nigeria opens new opportunities for U.S. equipment. The printing trade generally regards the U.S. as the innovator and leader in phototype setting and other industry developments. A number of Nigerian entrepreneurs are entering the printing business. Many nationally-known printers are upgrading quality and expanding their printing facilities. The government is expanding operations to increase its output of regularly printed publications from 150 to 260 titles. Although there is no local manufacture of printing and graphic arts equipment, most major publications use fairly sophisticated machines. Many publishing houses have changed to offset machines and photosetting instead of lead setting. Catalog Exhibit Section, 202-377-3973.

Metals Industry Equipment Exhibit at "TECHNOLOGY-77" International Trade Fair, Tel Aviv, June 8-15. The metalworking industry in Israel is characterized by two factors: rapid growth rate in investments, output and export, and a trend towards more sophistication and diversification. The Israeli market for metalworking and finishing equipment expanded by 92 percent during the 1968-72 period, reaching a total of $66.4 million. In 1975 that market hit $90 million and is expected to exceed $110 million in 1978. Franc D. Manzolillo, 202-377-2991.

U.S. Exhibition at "Electro '77," Moscow. June 9-23. The theme of the U.S. exhibition is electrochemical, electricity producing, transmission, and distribution equipment of all kinds. Equipment for the electrical equipment production industry is needed, including automation equipment, test/measurement instruments, and welding equipment. There will be a small section on nuclear and electrotechnical medical equipment. Automated electrical systems for the mining, metallurgy, machine tool, plastics, pulp and paper and agricultural sectors are needed. Call Judith Robinson or Gary Roberson, 202-377-3376 or 4810.

Catering and Fast Food Handling Equipment Exhibition. U.S. Trade Center, London. June 13-17. Recent market research verifies that certain areas such as the public house, cafe and fast food and catering sectors in the hotel and restaurant industry offer worthwhile potential for U.S. suppliers of microwave ovens, convection ovens, dishwashing equipment, waste disposal equipment, soft icecream makers, cook-freeze equipment, bratt pans, commercial barbecue equipment, and water conditioners. U.S. products, considered to be technically superior, have an inherent advantage. A $93 million market in 1976 is projected to grow to $108 million by 1979. George A. Kemp, 202-377-3422.

Electronics Industry Production and Test Equipment (EIPT) Exhibition and Seminar. U.S. Regional Trade Center, Singapore. June 13-17. In Singapore, U.S. firms supply over half of a $9.6 million market (1973-1975 annual average), whose growth is projected to reach $13 million by 1979. Singapore's healthy economic base and rapid development in neighboring Southeast Asian countries make the Singapore regional market for EIPT equipment attractive. Call George I. Middleton, 202-377-2471.

Medical Equipment Catalog Exhibit, Basel. June 14-18. National and local medical programs in Switzerland, rated among the most advanced in Europe, create a solid local demand for the latest in sophisticated biomedical equipment. The local market, currently estimated at $45 million, is growing at a rate of some 14 to 16 percent annually. Except for local production limited to specialized and generally advanced apparatus, imports account for almost all Swiss equipment needs. The U.S. is the second largest supplier of medical equipment to the Swiss market. There are 495 hospitals and over 10,000 doctors, of which approximately 25 percent are private practitioners. Catalog Exhibit Section, 202-377-3973.

Instruments for Analytical Chemistry and Applied Spectroscopy Exhibition. U.S. Trade Center, Tokyo. June 20-24. Japan ranks second only to the U.S. in chemical production with a value of over $14 billion; by 1980 this figure is expected to double. The market for scientific and industrial laboratory equipment to support this production is calculated at over $250 million, with the U.S. capturing more than 50 percent of the sales of imported laboratory instruments. It is anticipated that the need for laboratory instrumentation will increase in relation to production. Tom Welch, 202-377-2896.

Hydraulic, Pneumatic and Advanced Fluid Power Systems, Equipment and Components Technical Sales Seminar. Seoul and Taipei. June 20-26. Korean economic development plans call for significant upgrading of technology within local industry and expansion of key industries in the manufacturing, processing, mining and construction sectors, as well as further expansion of the machinery and petrochemical industries. These developments should provide a strong impetus for continued growth of the Korean market for fluid power and control systems, which is expected to reach $37 million in 1977. Local production is insignificant and Korea must, therefore, rely on imports for its increasing fluid power needs. Taiwan's current Six-Year Economic Development Plan (1976-81) stresses the development of local industry from labor-intensive to technology-intensive production, as well as the overall upgrading and modernization of machinery and other production equipment. Fluid power equipment has been recognized as an integral factor in attaining these goals because of its variety of applications and because it is regarded as a means of "low-cost automation." Total consumption of fluid power components and equipment increased from $8.7 million in 1973 to $24 million in 1975, some 256 percent. Contact Robert Bucalo, 202-377-4918.

Commercial Fishing Equipment Trade Mission. Ghana, Liberia, Nigeria. June 20-30. Each country has had problems in its fishing industry and plans ambitious programs to stimulate increased domestic production to meet local demand and to earn foreign exchange through exports. Best product opportunities include marine refrigeration, fish processing and fishing equipment, shipboard equipment such as engines, propellers and winches, harbor and dockside equipment including cold storage and fish processing and packaging, oceanographic equipment, offshore equipment, and marine electronics for commercial fishing vessels. Contact Wanda Ale, 202-377-3119.

Printing & Graphic Arts Equipment Catalog Exhibit, Colombia and Ecuador. June 20-July 1. Although relatively unsophisticated, the printing and graphic arts industries in these countries are rapidly developing and growing. Colombia is the fourth largest producer of Spanish-language printed matter in the world, with some 20 large firms and about 1,000 smaller firms. Both large and small organizations are "going offset," although the small firms favor inexpensive offset equipment, or duplicating machines. There is also a limited market for in-house printing in large industries, banks, and government. Ecuador also has about 15-20 large firms and 1,000 small firms in the industry, with 75 percent or more of their equipment antiquated or obsolete. To keep up with the 10 percent overall growth of the Ecuadorean economy, these firms must enlarge and modernize their facilities. Both countries have liberalized their import restrictions and initiated tax reforms aimed at further local development. Catalog Exhibit Section, 202-377-3973.

Security and Safety Equipment Exhibition and Seminar. U.S. Trade Center, Sydney. July 11-15. The continent of Australia offers promising sales opportunities to U.S. suppliers of security and safety equipment. Expanding at a buoyant rate, the total market should top $210 million by 1980, with imports accounting for $71 million. This exhibition, specifically recommended by independent research, provides direct access to a growing market. A wide range of product categories of interest to both public and private end-users will be featured. Robert McLaughlin, 202-377-4957.

Automotive Diagnostic and Repair Equipment Exhibition. U.S. Trade Center, Tehran, July 17-21. Iran's vehicle population is expected to grow from 1 million in 1976 to 2.1 million by 1980. Domestic production should increase dramatically. Most U.S. and foreign auto/truck manufacturers are already involved in Iranian joint ventures. The number of repair facilities, now estimated at 4,200, is increasing. Iran has limited domestic production capabilities in the diagnostic and repair field and will need substantial imports to satisfy growing demand. Call Bill Monroe, 202-377-2952.

Sporting Goods and Recreation Equipment Exhibition. U.S. Regional Trade Center, Singapore. July 18-22. As the main supplier of goods and equipment to Malaysia and Indonesia, Singapore is a rapidly growing market for sporting goods and recreation equipment. The number one tourist center in Southeast Asia, Singapore's domestic consumption is supplemented by a large tourist trade in sporting equipment. Best prospects for sales are in equipment for water sports, an increasingly lucrative market, and for indoor and outdoor games and sports. With more leisure time, an increasing emphasis on health, and increasing affluence being enjoyed by the people of Singapore, now is the time to enter this diverse and fast growing multimillion dollar market. Todd W. Burns, 202-377-2051.

Electronic Components Exhibition. U.S. Trade Center, Tokyo. July 18-22. The Japanese market for electronic components grew from $2.9 billion in 1975 to approximately $4 billion in 1976. Projections for 1980 indicate a $7 billion market, with imports of $911 million, $200 million from the U.S. During the period 1977-80, Japanese imports of U.S.-manufactured components should total $770 million. The most advanced technology will insure high sales potential for integrated circuits, diodes and rectifiers, transistors, resistors, semiconductor lasers and switches. Cantwell Walsh, 202-377-4399.

Agricultural & Food Processing & Packaging Equipment Exhibition—AGRIQUIP '77. Jakarta. Aug. 1-15. The Indonesian Government is giving priority to agriculture, i.e., the reduction of food imports and increase of export earnings from agricultural and processing operations, together with implementation of the Second Five-Year Plan, which allocates $2.4 billion for these purposes. Imports of agricultural equipment (excluding forestry) are expected to rise from $7.0 million in 1975 to $17.3 million in 1980, while FPP machinery should rise from $41.6 million to $80.8 million during that period. The market ranges from basic agricultural equipment to plastic packaging machinery. Ronald E. McCowen, 202-377-3560.

CHEMISTRY '77. Moscow. Sept. 1-15. The 10th Soviet Five-Year Plan (1976-80) stipulates increases in industrial production of 35-39 percent and a growth rate in the chemical/petrochemical industry of 60-65 percent—50 percent higher than that of industry overall. The Soviets are placing top emphasis on agricultural chemicals to help boost farm output. Heavy concentration is planned on increasing fertilizers, insecticides, herbicides and other plant-protection chemical products. In addition, the plan calls for satisfying consumer needs. These include increases in production of synthetic resins and fibers, plastics, synthetic rubber and tires, magnetic film, electrical insulating materials, cleaning materials, textile dyes, polymer additives, plastic wraps, and other packaging materials. Call Tony Bilecky, 202-377-2801.

General Industrial and Agricultural Equipment. U.S. Exhibition at 33rd Plovdiv International Fair. Sept. 3-10. Agriculture, a vital sector in the Bulgarian economy, will expand 20 percent during the new plan period (1976-80). A full range of farm equipment is desired. Substantial potential demand exists for U.S. industrial equipment and high technology products such as materials handling equipment, machine tools, automated equipment, and all classes of multiple operation machines superior to European equipment. Reginald Beckham, 202-377-2802.

Advanced Business Equipment and Systems Exhibition. U.S. Trade Center, Tokyo. Sept. 12-16. The Japanese market for such products was $975.5 million in 1974, and the forecast for 1979 is $1.5 billion. Japanese imports are estimated at $208 million for 1979, of which the U.S. share will reach $125 million. Featured will be labor-saving office equipment and systems which save time, cut costs, accommodate the Japanese shift to multinational enterprise and meet the exacting demands of the expanding Japanese information processing community. Robert Levine, 202-377-4379.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

FRANCE—U.S. participation is sought for **renovation of "Village of Cauve,"** built in 15th century. Total area of village, about 5,500 sq. m. Also, additional industrial facilities are desired for Voiron region of country. Additional information available from Ms. I. C. DuFresne, 18 East 88th St. PHT, New York 10028, Telephone: 212-534-6336. P-77070.

NIGERIA—Oyo State Investment Credit Corporation plans to enhance State's industrial investments. Contact is sought with technical partners, machinery manufacturers, suppliers, contractors in following fields: **agricultural implements; clay burnt bricks; beer, soft drinks; aluminum products; automobile components; building materials; electrical components; packaging materials; metal fasteners; tourism, hotel development; soaps, detergents; industrial gases; ice; bottles and crates; plastics; refrigerators, stoves; food processing; mattresses; electric cables; carpets, rugs; expanded metals, pipes, fittings; wood complexes; prestressed structural components.** Interested U.S. firms should contact A. O. Olagoke, Assistant Controllers, Oyo State Investment & Credit Corp., PMB 5085, Ibadan. P-77071.

UNITED KINGDOM—Seeks license or similar arrangement to **manufacture any type of electronic control equipment and/or transformers up to 5 KVA.** Firm presently makes electronic control equipment, transformers, industrial trolleys. Established 1962, employs 62. L. N. Crawford, Dir., Crawford, Hansford & Kimber Ltd., Sandford Road, Aldershot, Hants GU11 3AG, England. P-77055.

0111—SAUDI ARABIA—Firm seeks joint venture partner to establish **wheat farming operation** in one of four areas being promoted by government. Company wants technical expertise. Interested U.S. firm would have to define what can be done and provide management expertise. Company currently in freight transportation business. Mohamed Al-Bakry, Orient House for Agencies & Commerce, P.O. Box 5973, Jidda. P-77085. OPIC.

0133—NIGERIA—Government seeks management, technical assistance and equity investments from American companies having capabilities for **growing and processing sugar cane.** Sugar industry is priority sector for development. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77073.

2800, 2000, 3262—ARGENTINA—Seeks to represent U.S. companies on commission or agency basis for sale of **chemical products, including industrial chemicals; foodstuffs for human and animal consumption; chinaware.** Established 1968; export to neighboring countries. Felipe E. Glaubach, Mng. Partner, Felipe E. Glaubach S.R.L., Hipolito Yrigoyen 2470, Buenos Aires. Telephone: 48-8925, 48-9537. P-77074.

2816—INDIA—Seeks technical collaboration from U.S. firm to produce **acetylene black.** Proposed output is 1,800 tons per year using calcium carbide produced by existing plant owned by Indian firm. Electricity, water, transportation facilities available at proposed acetylene black plant site at Hagari in Bellary District of Karnataka State. Total initial investment in project is estimated to be about $1.33 million. Indian company will supply about $0.9 million; balance will be borrowed from financial institutions. Established in 1955, firm employs 1,500, has annual sales of $13 million; manufactures calcium carbide, portland cement. K. Channa Veerappa, Gen. Mgr., Panyam Cements & Mineral Industries Ltd., Cementnagar 518206, Kurnool District, Andhra Pradesh. P-77105. OPIC.

2821—GERMANY—Manufacturer of **acrylic resins and systems for bundling and banding of boxes, cases, cartons with synthetic and plastic bands** seeks licenses from U.S. manufacturer of similar processing and packaging equipment. Firm, established 1939, has sales coverage throughout Europe. Dr. Manfred Jaeger, Ernst Jaeger GmbH, Oerschbachstr. 35/39, 4000 Duesseldorf-Reisholz. Telex: 08582127. P-77101.

2869—BRAZIL—Seeks know-how to **produce and process ethyl alcohol distilled from sugar cane and/or manioc.** Especially interested in obtaining services of technicians able to assist firm's research and development department; will consider technical assistance or licensing agreement or joint venture with American company. Brazil has embarked on program to produce alcohol so that all motor fuel will include at least 20 percent alcohol by 1983-84. This will require nearly 100 distilling plants to be built throughout country. Established 1945, company makes equipment for petroleum, chemical, steel industries; also storage tanks, pressure vessels, silos and pipes. Annual sales, $17.2 million. Firm is part of MACIFE Group which makes building ma-

terials. Brigadeiro Roberto D. Leuzinger, Superintendente de Planejamento, Empresa Brasileira de Solda Electrica S.A.—EBSE, Avenida Presidente Vargas, 509-3 andar ZC-00, 20.000 Rio de Janeiro, RJ. WTDR. P-77056. OPIC.

2893—BELGIUM—Seeks licensing agreement to manufacture **printing inks.** Company employs 25 people, has annual sales of $750,000. C. Weyns, Mng. Dir., ARETS, PVBA, Boomsesteenweg 947, B-2610 Wilrijk. Telephone: 031/27.78.73. P-77102.

3079—BRAZIL—Manufacturer of soaps, detergents, disinfectants, plastic packaging and goods seeks technical assistance for manufacture of **plastic reusable noncorrosive sprayers (not aerosols).** Firm is interested in licensing or joint venture arrangement on 50-50 percent basis. Established 1960. Domingos dos Santos Correa, Dir., QUIVESA-Industria de Produtos Ltda., Rua Craveiro de Sa, 44 ZC-91, 20.000 Rio de Janeiro, RJ. WTDR. P-77057. OPIC.

3079—GERMANY—Leading manufacturer of wide variety of poly-vinyl chloride, polyethylene, polypropylene tubes and pipes for water and gas systems, seeks licensing agreements for production, distribution of **fiberglass reinforced plastic pipe.** Established 1955; employs 560. Omniplast GmbH & Co., Geschaeftsfuehrung, Finanzdirektor Leip, Postfach 49, D-6332 Ehringshausen, nr. Wetzlar. Telex, 0483881; telephone, 06443-901-90-200. P-77069.

3140—SYRIA—Government agency desires technical and marketing assistance under licensing arrangement, including right to use brand names to produce **shoes.** Agency has four shoe factories, each with daily capacity of 3,500 pairs, under construction. Arab Tannery Co., P.O. Box 2019, Damascus. P-77086. OPIC.

3255, 2861, 2869—NIGERIA—Firm seeks joint venture arrangement with U.S. company for manufacture of **bricks; methanol, ethanol and allied solvents from palm wine or other materials.** S. J. Una, Utuk Bros. Sons & Co., Ltd., 7 Orn Road, P.O. Box 51, Uyo. P-77106.

3271, 3272—NIGERIA—Desires collaboration with suitable U.S. partners to form civil construction joint venture. Entrepreneur would like to **produce aggregate and concrete cinder blocks, and purchase required machinery needed to operate facility.** Operation may also include manufacture of flagstone, ceramic tiles and other earth/stone based construction trimmings. Nigerian businessman planning to visit U.S. in April to meet with interested American companies. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77114.

3271—QATAR—Seeks joint venture with U.S. manufacturer of resin concrete. U.S. partner would be expected to provide technical expertise on equipment, training of local staff and supply raw materials (as negotiated) for production of **decorative floor tiles and sanitary fixtures of resin concrete.** Products will be marketed in Middle East countries. Language of correspondence may be in English or Arabic. Mohamad Zin Jaber Al Thani, Minister of Municipal Affairs, P.O. Box 4643, Doha. P-77107.

3272—GERMANY—Engineering and consulting firm is seeking contacts with U.S. engineering companies. Firm is interested in licenses based on latest technology, for manufacture of **non-corrosive building facades for multi-storied buildings.** Company has no manufacturing facilities; however, it can have products manufactured by subcontractor. Established 1926; sales territories include West Germany, Austria, Switzerland, Netherlands. E. Stoschek, c/o Ingenieurbuero E. Stoschek, Pomona 30, 4040 Neuss. Telex: 08517494. P-77087.

3275, 3296—FRANCE—Seeks licensing agreements for production of **any material for thermal or acoustical insulation.** Firm is also interested in manufacturing **suspended ceilings.** Established 1949; employs 265. Company is manufacturer of insulation materials. Michel Brassie, Mktng. Mgr., La Vermiculite et la Perlite S.A., 269/287 Rue de la Garenne, 92003 Nanterre. Telephone, 780-7197; telex, 620 839. P-77108.

3320, 3412, 3433—GERMANY—Firm engaged in designing, manufacturing, assembling of **high-temperature heating systems, processing plants for chemical industry, foundries, containers of all sizes,** seeks cooperation with similar U.S. firms for exchanging know-how. Company, established 1905, employs 450, has sales outlets throughout Europe. K. J. Heinrich, Freier Grunder Eisen- und Metallwerke GmbH, Postfach 1220, 5908 Neunkirchen. P-77058.

Important Notice

Most member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specific types of business relationships with the State of Israel. The Commerce Department will not disseminate nor make available for inspection any tenders or trade opportunity documents which contain conditions intended to support such boycotts, or which are based on documents known to contain such provisions. Trade or investment opportunities published herein are not presently known to be subject to such conditions. However, it is possible that U.S. firms responding to opportunities from Arab countries may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such request to the Department of Commerce in accordance with Section 369.4 of the above-cited regulations.

3321, 3561—UNITED KINGDOM—Small manufacturer of iron, nonferrous, and stainless steel castings, machined parts, tank fittings and assemblies, is seeking to manufacture under license **pumps and pressure castings.** Castings supplied by company are normally fully machined to high specifications and produced from solid state induction melting facilities. Company has small, highly skilled labor force. H. T. J. Ansell, Dir., Brafe Engineering Ltd., 22 Betts Ave., Martlesham Heath, Ipswich 1PS 7RH, England. P-77096.

3431—SAUDI ARABIA—Firm seeks licensing and/or joint venture agreement to establish factory for manufacture of **metal bathroom fixtures and fittings.** Firm presently produces furniture. Riyadh Furniture Factory, P.O. Box 5038, Riyadh. WTDR. P-77059. OPIC.

3442 — GERMANY — Manufacturer of products for building industry such as **skylight openers, window openers, aluminum window frames, electric and pneumatic operated smoke vents and related hardware, handles, hinges,** is interested in cross licensing agreement with U.S. firm. U.S. company could be in same product field or be manufacturer of aluminum profiles with sales organization targeted at building industry. Established in 1933, firm has 60 employees. Fred K. Lampe, Mgr., Friedrich Hahn GmbH, Elisenstrasse 17, 4040 Neuss. Telex: 8517769. P-77060.

3442—GERMANY — Firm, presently engaged in manufacture of overhead doors (wood, plastic, aluminum and steel), seeks licensing arrangement to produce **overhead doors, aluminum, plastic coated.** Established 1930, employs 90. Kaufmann KG, Postfach 100126, 4048 Grevenbroich/Rhld. P-77095.

3479, 3496—GERMANY—Firm seeks licenses to manufacture **knitted wire mesh** and other shielding materials and components against electromagnetic and radio frequency interference. It is also interested in licenses for **thick film resistive pastes and thick film reflective coatings.** German company is small and specialized manufacturer of epoxy products for electronic industry, such as conductive and non-conductive epoxy adhesive systems, conductive and resistive lacquers, conductive and high temperature lubricants. John A. Speer, Gen. Mgr., Epoxy Produkte GmbH, Guntherstr. 1, 6149 Fuerth/Odenwald. Telex, 468 458; phone, 06235-4546. P-77094.

3540—FRANCE—Seeks licenses to manufacture **high speed feeding equipment, coil and joining equipment, straighteners with electronic devices and automatic machinery for feeding presses.** Presently produces shears, straighteners, feeding equipment. Marketing area includes all industrialized countries. Annual sales, about $3.5 million; excellent reputation. Georges Jeanney, Pres., Dimeco Alipresse, Pirey, 25480 Miserey. Cable: DIMECO BESAN; telex, 360182 F; phone 81-803351. P-77093.

3551—YUGOSLAVIA — Enterprise seeks supplies of about $3 million worth of **juice processing and packaging equipment and technology.** New production plant for fruit and vegetable juice (concentrated) will be established. Annual capacity for processing about 2,000 tons of apples, 1,500 of other fruits, 200 tons of tomatoes is contemplated. MiLadin Trajkovic, Dir., Delises Pik, 18510 Vladiein Han. Cable: DELISES. P-77088. OPIC.

3559—FRANCE—Newly established holding company seeks license for affiliated firm. Interested in production of **industrial machinery not exceeding 20 tons** for several industries. These include food processing, farm equipment, packaging, materials handling, mechanical parts, maintenance equipment, automation machinery. J. Thelinge, 20 bis Route de la Croix, 78110 Le Vesinet. Telephone: 359-7300. P-77089.

3559—GERMANY—Seeks licensing agreements for **complete desalination systems and newly developed industrial water treatment systems.** German engineering firm specializes in installation of industrial water treatment systems. W. Keil, W. Keil Wasser-Aufbereitungs-Anlagen, Kopernikusstr. 9, 4044 Kaarst. Telex: 0517665. P-77061.

3559—SWITZERLAND — Seeks licenses for **chemical blending machinery using advanced technology; novel types of chemical filtering processes and related equipment such as reverse osmosis, membrane filters and ion exchange systems; advanced chemical process technology including high and low temperature processes, drying and evaporation and equipment with application to viscosity and weight; recycling equipment for chemical industry.** Firm wants to expand its process control and equipment division. Is major international concern, employs 4,800; operates plants in Germany, France, U.K., Japan. Roland Fischer, Vice-Dir., LUWA AG, Anemonenstr. 40, 8047 Zurich. Telex, 52 268; telephone, 01/52 13 00. P-77062.

3561—UNITED KINGDOM — Seeks license to manufacture **air operated, reciprocating piston pumps.** Capable of pumping 30 gal. of 30 s.a.e. oil or displacing about 20 lb. of grease per minute. Firm wants to complement its current range of fluid pumps. Also makes lubrication equipment, automotive lifts, brake testing apparatus, steam cleaners. Employs 450, has 25 salesmen. Has associated company in France. N. F. Deacon, Mng. Dir., Kismet-Dynalfex Ltd., Fenlake Road, Bedford MK42 OEX. P-77090.

3569—SWITZERLAND — Company has recently entered field of oil mist removal in manufacturing plants. Seeks licenses to produce **filtering systems for installation on top of industrial chimneys for removal of undesirable gases such as SO2, NO and NOx; combined air filtering, air recycling systems; any other novel system or equipment in industrial air quality and air pollution control.** Manufactures, markets industrial machinery and motors. Exports to Western Europe, Africa, Middle East. Employs 80. Mr. Alesch, IPTC—Industrial Products Co., Ltd., P.O. Box 188, 8024 Zurich. P-77063.

3573—FRANCE—Interested in license to manufacture **data transmission equipment and microprocessor peripherals.** Firm was established 1960, employs 90. B. Pronier, Pres., Leonard S.A., 236 rue Sadi-Carnot, 59320 Haubourdin. P-77091.

3573, 3545, 3679, 3832—SWITZERLAND—Seeks licensing arrangement for production of **optical light guides, fiber optics, optoelectronic scanners; components used in fiber optics and optoelectronic measuring and scanning instruments; UV-fiber optic systems; reflection measuring instruments; optical readers, scanners.** Established 1953. N. Moraschetti, Dir., Volpi AG, Bernstrasse 129, 8902 Urdorf. Cable: VOLPI, Telephone, 01/7341620; telex, 56591. P-77064.

3573—UNITED KINGDOM — Seeks to manufacture under license **data acquisition/logging systems and minicomputer peripherals and interfaces, particularly for use in environmental research and development.** Established 1973, concern currently makes minicomputer interfaces, peripheral sub-systems, special digital systems. N. G. Charlesworth, Dir., Optech Automation Ltd., Bridge House, 465/467 Crewe Road, Sandbach, Cheshire, England. P-77065.

3579—FRANCE — Seeks to manufacture **sorting machines for mail and parcels under license.** Firm specializes in manufacture and engineering of materials handling systems for metal industry, mail and parcel sorting and conveying systems. Employs 62; annual sales, $5.4 million. A. Mielle, Commercial Mgr., SYPRIM S.A., 6 bis Rue Bonnemain, 78100 Saint-Germaine. Telex, 600408; telephone, 973-3716. P-77100.

3613, 3679—KOREA—Seeks joint venture to manufacture electronic products. American firm offered 49 percent equity in project to produce **mini lamps for electronic watches; light emitting diodes for displays, lamps, arrays; liquid crystal displays for electronic watches.** Sought of U.S. participant is machinery, technology, raw materials. Presently, Korean company produces fluorescent numerical indicator tubes. Employs 1,000. Young T. Ha, Mgr.—Development Dept., Korea Electronics Display Co., Ltd., 222-16, Kuro-dong, Yungdungpo-ku, Seoul 150. Cable, KOELDISCO Seoul; telex, MARVEL K27333—attn. KOELDISCO; telephone, 776-0930. Further details available from Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-77110. OPIC.

3621—FRANCE—Seeks licenses to manufacture **battery charging generators, electrical tension regulators and arc welding equipment.** Firm presently produces, markets battery charging generators. Established 1957, employs 160. Reports 1974 sales of $2.2 million. Mr. Chevallier, Gen. Mgr., Transformateurs BC, 108 rue Marius Aufan, 92307 Levallois Perret. P-77099.

3621—ITALY—Seeks license to manufacture **small DC electric motors** using ironless rotor. Firm presently produces, distributes industrial and home clocks. Employs 214, reports annual sales of about $5 million. Established 1937. ITALORA S.p.A., Via Panzeri 5, 20123 Milan. Telephone, 02/839.77.37; cable, ITALOROLOGI Milano. WTDR. P-77066.

3662—FRANCE—Seeks licenses to make **theft alarm devices.** Firm presently manufactures alarms, signal systems, safes, vaults. Employs 190, has 20 salesmen. Company is well managed, enjoys good commercial reputation. Philippe Favre, Product Mgr., Agostini, S.A., 12 Rue D'issy, 92100 Boulogne. P-77092.

3662—FRANCE—Manufacturer of switchboard apparatus and current carrying wiring devices seeks licenses. Wants to produce **fire and/or theft detection equipment.** Firm is well managed, employs 210 and 14 salesmen. Dan Collins, Mgr., Arnould Electro Industrie, 62 Bis, Ave. Gabriel Peri, 93407 Saint Ouen. P-77103.

3679, 3825—INDIA—Firm seeks subcontract arrangement with interested U.S. firms to manufacture **electronic components and instruments such as transducers, electro-magnetic counters and relays** for export to U.S. and other countries. Electronic division of Indian company was established in 1970 to manufacture electronic instruments and allied products such as process control equipment for cigarette industry, moisture meters and r.p.m. counters. Kamat Madhav, representative of firm, scheduled to arrive New York first week in February, plans to stay one month. Interested U.S. firms should write to Mr. Madhav at his U.S. mailing address, c/o Arjun S. Awal, Apt. 16G, 400 East 84th St., New York, N.Y. 10028. Firm's overseas address is Electronic Measurements Division, MIMEC India Private Ltd., 21 Ravi Industrial Estate, Tumkur Road, Bangalore 560022, India. P-77075. OPIC.

3714—UNITED KINGDOM — Manufacturer of **commercial vehicle body parts and fittings** is interested in manufacturing under license similar products, preferably those made as pressings, injection moldings, assemblies, etc. Company employs 170, reports annual sales of $5 million. R. B. Cooper, Mng. Dir., Albert Jagger Ltd., Centaur Works, Green Lane, Walsall, West Midlands WS2 8HG, England. P-77097.

3721, 3728—FRANCE — Manufacturer of arrestor barriers, parachutes, balloons, life-jackets, medical, diagnostic and therapeutic electronic equipment, is seeking licensing agreement for manufacture of **safety or emergency devices, rafts or floating platforms and escape slides.** Established 1928, employs 600. Gildas Hatton, Pres., Aerazur Constructions Aeronautiques, 58 Blvd Gallieni, 92130 Issy Les Moulineaux. WTDR. P-77076.

3728—FRANCE — Seeks licensing agreement for manufacture of **aircraft equipment** such as linear or rotative actuators and other electro mechanisms. Established 1938; employs 210. D. Blin, Commercial Mgr., Aviac, 249 rue de la Garenne, 92000 Nanterre. Telex, 692 636; telephone, 781-4710. P-77067.

3823—FRANCE—Manufacturer of industrial measuring and controlling instruments seeks licensing agreements for production of **industrial process and regulation control instrumentation.** Employs 900. R. Oster, Commercial Mgr., Materiel Electrique de Controle et Industriel (MECI), 19, rue de la Tour, 75016 Paris. P-77109.

3832, 3573—UNITED KINGDOM—Manufacturer, exporter, distributor of scientific optics, seeks licensing agreements for production of any commodity which falls within field of **optical/electronic equipment.** Ian Fox, Joint Mng. Dir., Davin Optical Ltd., 13 Alston Works, Alston Rd., Barnet, Herts EN5 4EL, England. WTDR. P-77068.

3841—IRAN—Seeks joint venture arrangement with U.S. firms for production of high quality **disposable hypodermic syringes.** Initial facility would manufacture 50 million units of syringes annually. Expansion plans include manufacture of other disposable health care products. U.S. partner will be required to participate on minority basis; undertake design, construction of facility; specify procedure, equipment; install equipment and train Iranian personnel in technical and management skills. M. Pourzanjani, Industrial Consultant to Deputy Minister, NISRD, Ministry of Social Welfare, Shahreza Ave., Sarshar St. No. 34, Tehran. Telephone, 837111-3; cable, IRANREHAB. P-77077. OPIC.

3861—INDIA—Large firm seeks collaboration with American company for man-

ufacture of **photocomposing machines and allied equipment.** Company desires technical assistance, including complete data and designs related to manufacture of photocomposing machines; training of Indian personnel and establishment of regular production line. Firm is largest single producer of machine tools in India. Employs 16,000, has annual sales of $111 million. Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. WTDR. P-77104. OPIC.

7011—PAKISTAN — U.S. equity participation of 49 percent is sought by firm planning to **build two medium-sized 400-room hotels** on prime sites in Karachi. Total estimated cost of project, $28 million. Firm sponsoring project is an owner of a leading department store, real estate developers. Company also imports tea, wire, paper and plastic raw materials. Sirajuddin Paracha, Mng. Dir., Mahboob Bakhsh Ltd., Zainal Market, Abdullah Haroon Rd., Karachi. P-77078. OPIC.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-377-5361), referring to the appropriate file number.

Joint Venture

GERMANY—Leading producer of compact planetary gear boxes and axle drives wants to exchange licenses and will consider joint venture project with U.S. manufacturers for U.S. production of its **gear units (open worm, compact planetary), gear shifts, hydraulic parts, axle drives with rubber pad couplings, and sophisticated tool machinery.** Write: Hans-Ludwig Keim, Dir., Mgr. of Gearing Div., Thyssen Henschel, Henschalplatz 1, D-3500 Kassel. File 3268.

GERMANY—Company seeks licensee or possibly joint venture partner for manufacture in U.S. of various types of **pneumatically controlled merry-go-rounds.** Company holds U.S. patents for essential parts of this equipment. Write: Klaus Huss, Heinr. Wilhelm Huss & Co., Legienstr. 4, Postfach 110205, 2800 Bremen. File 3269.

JAPAN—Small company with joint venture in California wants to establish joint venture along coast of Connecticut, Maine or Massachusetts for **processing and packaging seafood.** Firm prefers U.S. partner to be operator of an existing seafood processing plant, and Japanese company will provide processing and packaging equipment and technology. Write: Mike M. Yamashita, Pres., Lavender Japan, Ltd., 2-18 Yoshino 1-chome, Fukushima-ku, Osaka 553. File 3270.

Licensing

MEXICO—Consultant/designer wants to sell patent rights to U.S. firm for his **plastic lamp/money box,** as well as copyright for his designs in **toys, puzzles, keychains.** Write: Frank Angeles, Hacienda de Xalpa 17, Colonia Bosques de Echegaray, Estado de Mexico; telephone, 905-560-1006. File 3271.

GERMANY—Company seeks cooperation with U.S. manufacturer of carburetors or automobiles for production of its **stratified charge procedure for stroke piston engines.** Tests indicate new system can lower fuel consumption by 30% compared to stock models, and lowers exhaust emissions. Write: Ing. Wilhelm Salzig, c/o ILTRATECH GmbH, Postfach 190106, Kaiser-Wilhelm-Ring 18, 5000 Koeln 1. Telephone: 0221/218228. File 3272.

GERMANY—Company offers for production in U.S. its positive **feeder** MPF and **storage unit** SPF-Elast for elastomeric yarns for circular, flat, and hosiery knitting machines (SIC 35522) that provide absolutely slip-free yarn feeding along with several other advanced features. Write: Gustav Memminger, Buero Memminger, Wittlensweiler Str. 12, D-7290 Freudenstadt (Black Forest). Telephone: 07441/3591; telex, 764 251. File 3273.

GERMANY—Company seeks U.S. licensee to produce its **industrial plastic valves** for pH measuring and conductivity along with **pneumatic drives and valves.** Write: G. Exner, Ekkehard & Georg Exner, Quienheimer Str. 56, 4040 Neuss. File 3274.

GERMANY—Company is interested in cooperation agreement with U.S. company to fabricate in U.S. its patented **hard cast iron elements** for grinding very abrasive granular materials such as cement clinker, quartz, ore minerals. Write: Fritz Meckel, Doering GmbH, Wetzlarer Str. 31, 6349 Sinn. File 3275.

GERMANY—Agent and distributor for company is interested in negotiating licensing agreement for U.S. production of **concrete** under new, patented process using special type of plastic additive and sand. Company claims even finest, desert-type sand can be used for producing the concrete. Write: Gerd F. Kley, Gerd Kley-Industrievertretungen, Karl-Coerdeler-Strasse 6, 4040 Neuss. File 3276.

GERMANY—Company wants to locate U.S. licensee for production of its **control valves** in U.S. Company produces variety of valves including feed water control, high differential pressure, injection, steam reducing and converting, natural gas control, and other valves used in process control technology, regulating and monitoring. Write: H. Hannemann, Reglerbau Hannemann GmbH KG, Reisholzer Werftstr. 64, 4000 Duesseldorf 13. Hannemann will also be available for discussions during Feb. 6-12 at World Fair for Technology Exchange, O'Hare Int'l Exposition Center, Rosemont, Ill., Booth No. L-18, or at Sheraton Hotel, O'Hare, Rosemont. File 3277.

SWITZERLAND — Company seeks U.S. licensee to produce its **high speed packaging machine** suitable for forming, filling, sealing and cutting of fluted, multi-chamber heat-sealable plastic portion pouches used by airlines and in retail stores. Machine packs volumetric measured quantities of salt, pepper, spices, and other free flow granular products. Write: Fred Kin, Beirmensferstr. 249, CH-8055 Zurich. File 3278.

BELGIUM—Company seeks licensees in U.S. for production of newly developed **high-speed cold header** for the mass production of screws and similar fasteners up to 4 mm. in diameter. Company claims it has production capacity of 600 pieces per minute—about 33% more than most productive machinery of similar type on market. Write: Ataliers J. Hanrez, S.A., Rue de Trazegnies 41, B-6031 Monceau-sur-Sambre. Telephone, 071/31.44.00; telex, 51.387 Hanrez B. File 3279.

FRANCE — Company seeks U.S. firms interested in manufacture under license of its **cabinets** with retractable doors and a new system of **office furniture.** Write: Mr. Sonolet, Marcadet Mobilier, 26/28 ave. Albert Einstein, 93151 Le Blanc Mesnil. File 3280.

GERMANY—Company is seeking U.S. licensee for production of its **positioning apparatus for form printing.** Fully automatic product, known as Codemaster, guarantees reliable and high-speed printing of account numbers and marking of owner by means of an addressing plate and numbering mechanism. Write: Hans Gubela, Postfach 910286, 500 Koeln 91. File 3281.

Pakistan Spurs Oil Exploration

The Government of Pakistan recently has promulgated a new ordinance intended to encourage foreign oil companies to explore and develop oil resources.

Royalties will be charged at a fixed rate of 12½ percent of the well-head value and will qualify as a payment to the Pakistan Government; income tax will not exceed 55 percent nor be less than 50 percent of earnings before deduction of payments to the government; equipment imported for exploration will be exempt from customs duty and sales tax; foreign personnel involved in exploration will be exempt from income tax for three years; proceeds from overseas sales of crude oil entitlements need not be returned to Pakistan except for those funds which are required to fulfill concession commitments. A limited number of copies of the ordinance are available from Mohammad Humayun, Economic Counsellor, Embassy of Pakistan, 2315 Massachusetts Ave., Washington, D.C. 20008. P-77098. OPIC.

Romania To Expand Plant

The Romanian Foreign Trade Organization Uzinexportimport, invites foreign firms to prequalify to tender for a major expansion of the Brasov bearing plant. Write: Lucian Popa, Department 32, Uzinexportimport, Calea Victoriei Nr. 133, Bucharest, or telex, 011-214, by March 1, giving specific information on prior experience in manufacturing similar equipment, deliveries of similar equipment during the last two years, cycle and metric system capability, financial status, past sales levels, engineering and manufacturing capacity. Interested firms may obtain from the U.S. Department of Commerce a list of major categories of equipment required; call Christine Lucyk, Bureau of East-West Trade, 202-377-3352.

Tunisia To Develop Coast

The Tunisian Government is planning to develop a prestigious site on the Mediterranean Coast. Opportunities exist for hoteliers, tour operators, property agencies, financing institutions, etc. Development plans include construction of a golf course, a pleasure harbor, hotels, apartments, villas and several other facilities. Interested companies can obtain additional information from Societe d'Etudes et de Developpement Sousse-Nord, 49 Ave. Habib Bourquiba, Tunis. P-77072. OPIC.

The following trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest indicated by codes 0111-1799 and 4011-8999 are based on the Standard Industrial Classification Manual, 1972; codes 20 through 39 come from Numerical List of Manufactured Products (New 1972 SIC Basis), MC72-1, 2. Codes beginning with 99 are from the TOP coding system.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Department's Export Administration Regulations. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (●) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Miscellaneous nonmetallic minerals except fuels

1499—GERMANY—German firm wishes to import natural turquoise of inferior color from U.S. for production of phosphor. These mine tailings are to be found in turquoise deposits in New Mexico, Arizona, Nevada, California and Colorado. Financial ref: Vereinsbank Muelheim/Ruhr. Reply to Mr. Klaus, Sr.; Polymer-Synthese Werk; Landrat-Von-Laer-Strasse; 4131 Orsoy/Niederrhein.

Highway & street construction

● **1611—ECUADOR** — Ministry of Public Works has announced tender for construction of 50-kilometer highway from Babahoyo to Balzapamba in Los Rio Province. Construction will be financed by loan from IBRD. Bid documents may be picked up at Secretaria Del Comite De Luciationes Del Ministerio, Ministerio De Obras Publicas, Av. 6 De Diciembre Y Wilson, of. No. 105, Quito, for nonrefundable fee of S$30,000 (US $1,150). Member states of the IBRD are eligible to bid. Companies must have Ecuadorean agent, be citizen or legally-established resident, to participate. Bid deadline March 14.

Men's, boys' furnishings

2321226—JAPAN—Boys' knit outerwear sports shirts, chiefly cotton. Est. annual purchase $20,000. Buyer will sell item to wholesalers throughout Japan. Firm specializes in sports shirts & jeans slacks. Annual sales $4 million. Ref.: Kiyo Bank Kishiwada Branch. Reply to—M. Yoshimizu, Pres., Yoshida & Co., Ltd., Box 40, Kishiwada, Osaka Pref. 596. Cable: YOISHIRT KOBE; tel: 0724-39-3346; telex: 562-3677 YOITRA J.

Fur goods

● **2337000—ZAMBIA** — Tender No. MF/ORO/312 for supply of police uniforms. Copy can be obtained from Secretary, Republic of Zambia Central Supply and Tender Board, P.O. Box 1009, Lusaka. Closing date March 11. Sample of item offered must be forwarded to Commissioner of Police, P.O. Box RW 103, Ridgeway, Lusaka.

Prefab. buildings

2448114—FRANCE—Prefabricated metal buildings (new techniques). Estab. 1968. Specializes in metalworking. Employs 80 workers & 2 salesmen. Wishes import for resale. Marketing territory: France & Africa. Offices & workshop located in industrial zone of Toulon at La Garde. Reported annual sales 13 million francs. Banking sources report firm has some financial difficulties related to receivership of 2 large clients but has made necessary arrangements to clarify situation. Finances seem to be good now & obligations met promptly. Local management association considers firm reputable & experienced. Reply to—Louis Guevara, Mgr., Sti Sud-Est Technique Industrie, 12 Rue Gues, Toulon. Tel 94/270016.

Wood products

● **2491000—CYPRUS** — Telecommunications Authority, a semi-government organization, is seeking quotations for manufacture, supply, inspection, testing, and delivery c.i.f. Limassol or Larmaca ports of following items: (1) 1,000 wooden poles, light, 8 meters long, (2) 1,000 wooden poles, medium, 9 meters long, (3) 500 wooden poles, medium, 11 meters long, and (4) 2,000 crossarms, 1,990 x 77 x 62 mm. All items to be creosote treated and conform to certain specifications. Quotations should be in Cyprus pounds and provide for firm delivery time. Tender documents and additional information can be obtained from U.S. Embassy in Cyprus for 2 Cyprus pounds (U.S. $4.85) at Therissos St Dosithios, Nicosia. Bids should be sent to George Papaioannou, Chief Engineer, Cyprus Telecommunications Authority, P.O. Box 4929, Nicosia. Contract number is AT. 5/77. Bid deadline March 4.

2499498—FRANCE—Expansion joint material; insulation products in cork. Dir. sale & agency. Subsidiary of large group St. Gobain (Pont-a-Mousson). Roclaine is selling construction materials (especially for insulation) through large commercial network. Agent/distr. for several French & European firms. Annual sales volume: 300 million francs. Good reputation. Reply to—Mr. Demoulin, Roclaine, 24 Rue de Prony, 75017 Paris. Telex 290 090; tel 637 9600.

2499498—GERMANY — Cork products made of natural, granulated & composition cork. Dir. sale & agency. Founded 1955. Annual turnover dm 3 million; 6 employees. Reply to—Mr. Broszio Jr., Broszio & Co., Charlottenstrasse 30, 2 Hamburg. Tel 040-491 20 61; telex 02 13632.

Paper mills, products

● **2621000, 2631000—IRAN** — Iranian Tobacco Company requests bids on supplying 700 tons of high quality white paper and 100 tons of white coarse paper in bobbins. High quality paper to be supplied in two different bobbin widths and have substance of 90+ or −2 grams/m2. Coarse paper to have substance of 80+ or −2 grams/m2. Bid deadline Feb. 26. Also, 650 metric tons of paperboard in bobbins, one side glazed and one side white, 500 tons to carry substance of 260-270 grams/m2, remaining to have substance of 260-280 grams/m2; bid deadline March 2. Copies of tender documents containing more detailed specifications and conditions of sale as well as samples of desired paper available from Construction and Forest Products Division, Room 2116, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-3534.

● **2631000—IRAN**—Iranian Tobacco Company requests bids for supplying 200 metric tons of triplex board in bobbins and 200 metric tons of duplex board in bobbins. Both grades of paperboard to have substance of 400-425 grams/m2 and thickness of 0.58-0.62 mm. Bid deadline March 9. Also, 100 metric tons of paperboard with one side glazed and one side white, to be supplied in sheets measuring 43 x 62 cm. and have substance of 260-280 grams/m2; bid deadline March 5. Copy of tenders containing more detailed specifications and conditions of sale available from Construction and Forest Products Division, Room 2120, U.S. Department of Commerce, Washington, D.C. 20230, 202-377-3534.

2641761—ITALY — Waste polyethylene coated paper, carton & strips, new & clean in bales, with printing on pe side only. Quantity desired up to 4,000 m/t. Est. value about $400,000. Medium-size partnership estab. 1920 with brothers Luidi & Bernardo Ghigliotti partners in equal shares. Mfrs. printing & book paper importing wood & fiber pulp from Sweden, Denmark, Netherlands & Finland. Sells in Italy only with reported annual sales volume exceeding $2.3 million. Employs 48 plus 3 sales reps., & 3 salesmen. Presently represents no U.S. or other foreign companies. In addition to importing waste pe coated paper as described, also interested in eventual excl. distr. for such product. Requests sales prices & details. Reply to—Dr. Marco Ghigliotti, Cartiera di Voltri G. B.

Ghigliotti, S. N. C., Via Ovada 42R, I-16158 Voltri, Genoa. Cable TF 731593 CARTIERA VOLTRI; telex 27060 Genoa; tel. 010/736653.

Industrial chemicals, machinery

• **2819000, 2873000 — IVORY COAST**—Urea, 190 tons; tricalcium phosphate, 620 tons; potassium chloride, 110 tons; and 1,500,000 polyethylene bags for plants. Tender number SOCATC1 19. Bid deadline March 5. Competition open to bidders from any EEC, IBRD member country or Switzerland. Bid documents can be obtained from A. Grossman, SATTAC—Societe Application Techniques Agricoles Et Caout Choutieres, P.O. Box 1498, Abidjan, for 5,000 CFA Francs ($20). Bids must be in French. Project financed by European Development Fund, IBRD, BNDA, (Banque Nationale Pour Le Developpement Agricole) and BSIE (Budget Special D'Investissement Et D' Equipement.

Petroleum refining

2911051—GERMANY — Dithiosalic acid. Founded 1931; 18 employees. Good reputation. Reply to—Mr. Wubbert, Claus Huth, Georgsplatz 1A, 2 Hamburg. Telex 02161855; tel 32 75 31.

Fabricated rubber products

3069585—FRANCE — Life rafts. Estab. 1969. Employs 600. Mfrs. & distr. arrestor barriers, parachutes, rafts, diagnostic & therapeutic electronic equip. Bank ref—Credit Commercial de France, 3 Rue la Boetie, 75008 Paris. Reply to—G. Hatton, Pres., Aerazur Constructions Aeronautiques, 58 Blvd. Gallieni, 92130 Issy les Moulineaux. Phone 644 50 70.

Plastic products

3079160, 3079190, 2821300, 2821400 — SWITZERLAND — PVDC, polyvinyldene chloride, emulsion or in film/laminates. Reputable mfr./distr. of special & coated papers, foils, films, laminates. Est 1910. Employs 100. Business recommended. Reply to Mr. Fetzer, Aernia-Leuch AG, Zeiglerstrasse 34, 3000 Bern 14. Cable AERNILEUCH BERN; tel 031/53 93 81; telex 32459.

Abrasive, asbestos, nonmetallic mineral products

• **3292700—GREECE**—Tender No. 1193/1976 for 60 asbestos fire protective suits. Closing date Dec. 1, 1977. Copies of tender documents can be obtained from Ministry of Commerce, State Purchases Directorate 3, 20 Kanningos St., Athens.

3293340, 3296298, 3229300, 2824270—SWEDEN—Braided boxpacking of materials that can replace asbestos, e.g., carbon fiber, glass fiber, graphite fiber. Large firm specializes in packings, rivets, riveting machines, industrial fasteners, oils, adhesives. Annual turnover approx. skr 34.5 million. Highly recommended trade contact. Products would fit well into exhibition of high performance materials at U.S. Trade Center at Stockholm, May 24-27. If a U.S. supplier could conclude agreement with Lindberg, exhibition would offer excellent opportunity to introduce these products into Scandinavia. Reply to—Gunnar Nielsen, Development Mgr., Ingeniorsfirman G. H. Lindberg Co., Sturegatan 46, S-102 43 Stockholm. Tel. 08/63 16 30. Dir. sale & agency/distr.

Steel mill products

• **3310000 — ECUADOR** — 30-kilometer length steel cable for use with electrical tensors; 630 kilometer length steel galvanised wire for use as core of ACSR cable to be stranded locally. Tender No. 24; bid deadline March 11. Empresa Electrica Cuenca, C.A., Cuenca. Tender was first announced in 1975 but not awarded. New bids should be submitted. Tender documents available from above address at $20 but at no cost to firms that previously bid. Correspondence in Spanish.

• **3310000—THAILAND** — 150,000 meters zinc-coated steel wire, ¼" diameter; 100,000 meters zinc-coated steel wire, 5/16" diameter; 60,000 meters zinc-coated steel wire, ⅜" diameter. Tender No. ADB-MEA 318; bid deadline March 21. Metropolitan Electricity Authority, 121 Chakpetch St., Bangkok. Tender documents available from above address at $5 per set.

Fabricated metal products

• **3443000 — MALAYSIA** — Government, through Bish and Partners B.V., Consulting Engineers, P.O. Box 2278, The Hague, Netherlands, has issued tender for supply of navigation towers and buoys. Bid deadline April 1. Copy of specifications available from above address for 100 Malaysian dollars.

• **3499000, 3523000, 3576000, 3632000, 3662000—UPPER VOLTA** — Ministry of Rural Development is requesting bids for 21 lots of equipment for West Volta Livestock Project. A $9 million World Bank credit is financing this project. Equipment required: 2 short-wave radio transmitter-receivers, 2 to 15 MHZ, range 200 KM., running on either 220 V5 50 HZ current, or 12 V battery, with internal & external speakers, microphones, battery chargers, repair kits, & accessories. 2 diesel wheel-tractors for farm use, min. 75 HP, 4-stroke, 4-cylinder, water-cooled engine, 8 forward gears, 1 or 2 reverse gears, hydraulic disc brakes. Trailer for tractor, with hydraulic tilter, 5 ton cap., all metal, hydraulic brakes. 1 scale for weighing cattle, cap. 1,000 KG., transportable on 2 retractable wheels, with weighing cage 2.2 meters long, 0.9 m wide, 1.7 m high, all metal, with winches, 4 interchange blades, brakes, regulation signals, and 1 roman balance scale, cap. 1,000 KG., with platform 7 m by 0.7 m, all metal, preferably without counterweights. 9 kerosene freezers, cap. 100-200 liters, min. kerosene reservoir of 10 liters, spare parts, and 8 kerosene refrigerators, cap. 200-300 liters, with freezing compartment of at least 15 liters, min. kerosene reservoir of 10 liters, spare parts. Safe, 95 x 60 x 50 cm, min. 4 bolts. The other 15 lots are for items of less value or involve many items within same lot. These items include a manure spreader, mowing machine, blade leveler, plows, saws, generators, motors, pumps, welding equip., microscopes, workshop tools, veterinary materials, refrigerators, stoves, and air-conditioners. Specifications and bid documents must be purchased at Consieur Le Directeur, Project Elevage Ouest Volta, B.P. 116, Bobo-Dioulasso, Upper Volta, Telex: 8223, for 3,000 CFA ($12) prior to submitting offers. Bids must be submitted in French. Bid deadline March 15.

Special industrial machinery

3559589—BOLIVIA—Machinery & equip. to produce perfumes. Reply to Ad Import Ltda., Gonzalo Ponce, Casilla 6522, La Paz. Cable: AD IMPORT.

General industrial machinery

• **3560000—INDIA**—Design, manufacture, assembly and installation of ten main boiler feed pumps (six with 50 percent and four with 100 percent capacity) with related accessories/auxiliaries for use in nuclear power project. Tender No. IPS/NAPP (PPED):CAP:23; bid deadline March 17. M. N. Gopalakrishnan Nayar, Purchase Officer, Directorate of Purchase and Stores, Department of Atomic Energy, Government of India, Mohatta Building, 3rd Floor, Palton Road, Bombay 400 001. Tender documents available at above address for RS.250 (approx. $28 per set). Interested bidders should obtain tender documents prior to submitting offers.

Office, computing, acct. machines

3573000—ECUADOR—Sergio Flores, E.E. Principal, School of Electrical Engineering, Escuela Superior Politecnica Del Litoral, P.O. Box 5863, Guayaquil, has issued tender for one assembled 8 or 16-bit wordlength, digital, electronic microcomputer. Offers should be submitted to Senor Flores at above address.

3579000—COSTA RICA — Danilo Rodriguez B., Director Nacional de Communicaciones, Aparzkdo 12076, San Jose, has requested information on mailing machines, including automatic and semi-automatic sorting and handling devices, mail handling and typing machines, cancelling machines, postage meters, postal mailing machines, and other post office equipment. Costa Rican postal system being expanded and updated. Senor Rodriguez B. wants to receive price quotations, literature and technical information for use in preparing specifications and requests for bids. Suppliers of postal equipment send information soon as possible.

Service industry machinery

3582000, 7215—NIGERIA — Large-scale laundromat operation being started by reputable businessman. Several locations in Lagos planned initially. Wishes to purchase complete laundromat package. Interested firm write: Alhaji Babatunde Jose, 8 Bornu Crescent, Apapa, Lagos.

• **3585100—YUGOSLAVIA** — Large import-export, retail and wholesale company, seeks bids for air-conditioning system to be installed in Slovenijales furniture sales center, Ljubljama. Tender number—Sluzbeni list SFRJ No. 56/76. Specifications must be picked up in person and available only in Slovene. Firms interested in free individual copy of specifications should telex request to American Consulate General Zagreb (Telex No. 21180). Bids should include technical documentation and product literature, payment and guarantee terms, delivery dates and trade references. Bid deadline March 24.

Electric transmission, distribution equipment

3612000, 3825000—ECUADOR—Following technical equipment needed for teaching purposes and research work at City of Guayaquil's Polytechnic School: variac

autotransformers; analog, electronic, voltage and current measuring equipment; digital, electronic multimeters; electrical power measuring equipment; digital phasemeters, 0.5 percent or less accuracy readout; electronic research component parts. 60 cycle 110/220 volt AC available. Estimated total f.o.b. cost $5,000. Financed with IBRD special fund assistance. Purchase will be made on cash direct basis. Contact: Sergio Flores, E.E. Principal, School of Electrical Engineering, Escuela Superior Politecnica Del Litoral, P.O. Box 5863, Guayaquil.

Radio, television receiving sets

• **3651000—EGYPT** — Egyptian Railways, Department of Purchases and Stores, Shoubra Tunnel, Cairo, has issued tender for telephone tape recorders. Bid deadline March 19. Copy of specifications available from above address at 75 cents each.

Communications equipment

• **3661000—MALI**—Direction Generale de L'Office des Postes et des Telecommunications du Mali, Bamako, has issued tender for supply of materials for extension of Mali telephone system. Bid deadline March 15. Copy of specifications available from above address for 50,000 Mali francs (U.S. $100) per copy.

• **3661000—SINGAPORE** — Foo Cheng Theng, Divisional Mgr., Purchasing, Telecommunications Authority of Singapore, 4th floor, Plaza Singapore, 68 Orchard Road, Singapore 9, has issued tender number PT/2/77/(X) for supply of 650 circuits of CCITT No. 5 type and 30 circuits of CCITT No. 1 (Manual R/D), and 97 service positions. Bid deadline April 15. Copy of tender documents available from above address for S$2,000 (approx. U.S. $820) in form of hand draft in favor of Telecommunications Authority of Singapore.

• **3662000—BOLIVIA** — Jorge Romecin, Gerente General, Empresa Nacional de Television, Casilla 900, La Paz, has issued tender for compact mobile unit for TV transmission, as follows: monochrone, 625 lines, 50 cycles, 22 volts, helicoidal and transversal recorder, microwave connection, monitors, video table, audio table, two cameras with accessories, camera controls, mobile generator, illumination system, to work at 4,000 meters above sea level. Copy of specifications available from above address.

• **3662000—CYPRUS** — Telecommunications Authority, George Papaioannou, Chief Engineer, P.O. Box 4929, Nicosia, has issued tender number AT 2/77 for ground-to-air transmitters and receivers, one, two and four channels. Bid deadline March 11. Copy of specifications available from above address at U.S. $12.15 per set.

• **3662000—EGYPT** — Ministry of Aviation, Committee on Foreign Purchases for The Civil Aviation Sector, Cairo International Airport, has issued tender for instrument landing system. Bid deadline March 31. Bids must be submitted through public sector company or registered Egyptian commercial agent. Copy of specifications available from above address for U.S. $130.

• **3662000 — IRELAND** — Engineer-in-Chief, Department of Posts and Telegraphs, Contracts Section, Marlborough St., Dublin 1, has issued tender number C/610/3/8 for supply and erection of microwave link towers at Athlone, Galway, Limerick, Sligo and Letterkenney. Bid deadline March 8. Copy of specifications available from above address. Request specification No. 2ML/77.

• **3661000—ETHIOPIA** — Beyene Desta, General Manager, Telecommunications Service of Ethiopia, P.O. Box 1047, Addis Ababa, has issued tender no. 28/76 for supply of five sets automatic telephone switching equipment. Bid deadline March 22. Copy of specifications available from Office of Printing and Stationery, P.O. Box 1047, Addis Ababa, for Eth. $100 (U.S. $49).

• **3662000—MOZAMBIQUE** — Ministerio des Obras Publicas E Habitacao (Ministry of Public Works and Housing), 606 Avenida Karl Marx, Maputo, Mozambique, has issued tender for supply of simultaneous interpretation and public address equipment. Interested firms cable product information, terms and prices to Architect Jose Forjaz, Tecnico Chefe do Gabinette de Estudos, located at the above address.

Electrical machinery, equipment, supplies

3692070 — SWITZERLAND — Batteries (cells) for electronic watches, Union Carbide type 384 & 392, or equal; min. order 100,000 pieces and up. Payment by L/C. Price 47 cents f.o.b. Active distributor of consumer electronics, with good connections to electronic watchmakers. Business recomended. Direct sale & rep. Reply to—Martin Erismann, A-Z Import-Export GmbH, Pfaffensteinstrasse 2, 8122 Pfaffhausen. Tel 01-825 01 26.

Engineering, laboratory, scientific, research instruments

• **3811000—INDIA**—Director of Stores & Purchases, Oil and Natural Gas Commission, Tel Bhawan, Dehra Dun, Uttar Pradesh, has issued tender number DSP/IMP/GEOPHY/243/77 for supply of four (may be increased to 8) portable digital seismic field systems, with instantaneous floating point gain control, with spare parts for two years operation. Bid deadline March 15. Copy of specifications available from above address at Rs. 10 (approximately U.S. $1.20) per set.

• **3811000—INDIA**—Directorate of Stores & Purchase, Oil and Natural Gas Commission, Tel Bhawan, Dehra Dun, Uttar Pradesh, has issued tender number DSP/IMP/GEOL/222(A)/76 for supply of one autoclane consistometer assembly, 50,000 per, 700 degrees F., 230V, 50 cycle AC supply with spares for five years operation. Bid deadline March 21. Copy of specifications and tender documents available from above address or Supply Wing, Embassy of India, 2536 Mass. Ave., NW., Washington, D.C. 20008.

• **3811000—MALAYSIA** — Bursar Universiti Sains Malaysia, Minden, Penang, has issued tender number WBSE/77/PM/1 for supply and installation of scientific equipment for use at school of physics and mathematics. Bid deadline March 21. Copy of specifications available from above address for M$50 (approximately U.S. $20).

• **3811000—THAILAND** — Royal Irrigation Department, Samsen Road, Bangkok, has issued tender number PL-3-9 for supply of surveying instruments, including electronic distance measuring instruments, theodolites, levels, invar staves, optical squares with plumbing rods, compasses, plant table equipment, steel bands and tapes, cloth tapes, stereoscopes, etc. Bid deadline March 17. Copy of specifications available from above address for $5 per set.

Instruments for measurement, analysis and control

• **3823000—DENMARK** — I. Kruger A/S, Rymarksvej 106, DK-2100 Copenhagen O, has issued tender for instruments for Copenhagen municipal government: supply, mechanical and electrical installation of turnkey control equipment system for new sewage treatment plant, including turbit meters, sludge level meters, liquid level meters, BOD, OOD, TOC and TOD meters, etc. Bid deadline March 10. Value estimated at U.S. $600,000-$1,000,000. Copy of specifications available from above address for DK 3,000, payable to Copenhagen, Office of City Engineer.

• **3825000—BOLIVIA**—Empresa Nacional de Electricidad, S.A., Casilla 565, Chochabamba, has issued tender number 511-LT-049 for supply of 16,824 electric power measuring devices. Bid deadline March 15. American firms must submit bids through Bolivian representatives. Copy of specifications available from above address at U.S. 20 cents per copy.
Agency

• **3825000—PAKISTAN**—Director of Procurement (Electricity), Water and Power Development Authority, 28/B Wapda House, Lahore, has issued tender no. 2019/CES/DPE/ADP-11/5/INTL for supply of 16 portable, self-contained precision current transformers, current ratings 50, 100, and 200, and 400 amps, 5VA, accuracy class 0.2 testing voltage, 20,000 volts, and 16 portable self-contained frequency meters for laboratory or field use to test 50Hz. AC circuit. U.S. bidders must participate through Pakistani agent registered with Water and Power Development Authority. Copy of specifications available from above address at $10 per set.

Jewelry, silverware, plated ware

3915231—INDIA—Rough as well as polished strontium titanate & yttrium aluminum garnet diamonds. Requests c.i.f. (Madras) quotations. Import permit will be obtained by inquirer & payment would be made in hard currency. Reply ASAP to—Surendra J. Shah, c/o Naresh & Co., 187 N. S. C. Bose Road, Madras 600001. Tel. 32733.

Toys, amusement, sporting goods

3940000—ZAMBIA—Wide range of sporting goods, including for basketball, football, lawn and table tennis, golf, net ball, volleyball, badminton, boxing and hockey. Buyer is subsidiary of governmental trade organization, National Import and Export Corporation, Ltd., and is entering sport market to alleviate supply problems. Interested parties requested to provide price quotations, payment and delivery information, catalogs, and samples where practical. Responses should be directed to L. J. Ring, Gen. Mgr., NIEC Agencies, Ltd., P.O. Box 1384, Lusaka. Cable ALERT; telephone 73447.

Manufacturing industries

3999589—WEST INDIES—Match-making machinery & supplies; candle-making machinery & supplies. A number of Carribbean govts. plan establish mfg. plants of the above and, on their behalf, Prazak would like to be put in touch with mfrs./

suppliers of machinery, equip. & related products for such plants. Requests brochures, price catalogs & other info. Reply ASAP to—Jiri Prazak, UNIDO Industrial Planning Adviser, East Caribbean Common Market Secretariat, P.O. Box 504, Dutchman's Bay, Coolidge, Antigua, W. I. Cable COMMART, Antigua; tel. 30085/30095.

Scrap & waste materials

5093—GERMANY—Damaged & defective bulk paper & paperboard, waste paper, for recycling. Specializes in importing damaged or defective paper & paperboard & selling to paper mills for recycling. Imports 2,000-3,000 tons/mo. Quote f.o.b. U.S. port or c.i.f. N. European ports. Reply by fastest means to—Herr Walter Schmitz, Lehnert & Schmitz OHG, Pastor Luepschen Str. 41, 5160 Dueren. Tel 02421/72458; Telex 0833856.

5093—GREECE — Waste textiles, esp. knitting waste wool or synthetics. Est. annual needs 4,000 tons. Previously imported these items from Holland, but now wishes locate U.S. suppliers. Operates as agent, importer & distr. of textile machinery & waste textiles. Represents U.S. firms. WTDR on request. Reply to Vassilios Kyritsis, Technical Textile Representations, 224 Syngrou Ave., Athens. Telephone 9520474; telex 21-4130.

5093—PORTUGAL—Iron & steel scrap HMS specs. 1, 2 & 3, min. gauge 3 m; 3 to 5,000 MT. Large importer/distr. requests quotations for above. Firm states this is trial order; if shipment pleases customer, orders may reach 100,000 MT/annum. Direct sales & rep. Good contact for interested U.S. firms. Cable or telex—Eduardo Barbosa & Irmaos, Lta., Rua S. Francosco, 23/1/ Drt., Oporto. Cable EALCO; telex 22165 P; tel 222196.

Consultants

7392, 8911—GUATEMALA — Economic Planning Council is forming register of domestic and foreign consultants. U.S. firms interested in being inscribed on this consultants list, which will offer possibility of being considered for future consultancy work in Guatemala, are advised to write to Lic. Armando Gonzales Comap, Secretary General, Consejo Nacional de Planificatcion, Banco de Guatemala, 7A. Avenida 22-01, Zona 1, Guatemala City, requesting forms required for inscription.

Special product groups

9950—BELGIUM — Do-it-yourself items. Reply to—Jacques Bauffe, Sermec S.A., 2, Square de Biarritz, Bte 2, 1050 Brussels. Tel 02/647.59/.04.

Botswana Gets Education Loan

The Government of Botswana has received loan Nos. 1274 BT and 1275 T-BT from the International Bank for Reconstruction and Development to assist in the expansion of its education system. The government invites suppliers from World Bank member countries and Switzerland to participate in international competitive bids of up to $2.5 million for educational equipment and furniture for delivery to Botswana during the period Sept. 1976-Dec. 1979. Materials purchased will be for secondary schools, teacher training and adult education facilities, training through radio and correspondence methods, plus brigade training programs and a multipurpose education center which includes rural skills training. For details including tender registration application, contact: Procurement Sec., Bolpelego Education Project, Private Bag 005, Gaborone.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Building paper, building board mills

2661222—DENMARK — Non-woven thermoplastic polyester felt for roof coverings (usable in hot bituminous materials). Weight per sq. meter 100-175 grams. Tensile strength; higher than 30 dan/2 in. width. Material width 80 & 40 in. Monthly requirements approx. 100,000 sq. meters. Importer/exporter of industrial textiles of jute, hessian, burlap, cotton, polypropylene, rayon, etc. Seeks excl. agency for Denmark, Norway, Sweden, Finland & Iceland. Employs 5, incl. 2 in field. Does not represent other U.S. companies. Reply to S. Langkilde Jensen, Owner, Langkilde Jensen Agencies, 86-188 Islevdalvej, DK-2610 Rodovre. Cable COMBROKER Copenhagen; tel 02-915285; telex 35154 SAWADI DK. Wishes excl. agency.

Pottery, related products

3262052—BELGIUM—Kitchenware, commercial. Agent/distr. of equip. & accessories for hotels & restaurants. Employs 7. Reply to—Mr. Booten, Mgr., Art & Appareillage Auxiliaire, B.P. 8, B-1000 Brussels. Tel 728.84.77.

Iron, steel foundries

3325215—CANADA — Carbon steel castings & other alloy steel castings, rolls for rolling mills. Firm has been operating for past 15 yrs. as mfrs. agents specializing in heat treating & steel processing equip., as well as heat treating, food & chemical industries in Ontario & Quebec; recently expanded into W. provinces. Has 3 employees, 2 salesmen. Excl. agency. Reply to—James W. Hamlen, Partner, E. Lorne Hamlen & Assoc., 30 Lawrence Ave. East, Toronto, Ontario M4N 1S2. Tel 416-489-6519.

Nonferrous metals

3332341—KOREA — Lead ingots, 99.99 percent or up. Requirement—100 MT/3 mo. Est. c.&f. price $590/ton. Claims to have located market calling for immediate supply 100 tons. Seeks c.&f. Pusan quotations & specs. with proposal for agency agreement. Firm is registered offer agent, has official status required in Korea to represent foreign suppliers & submit price quotations in own name. Reply to—Ong-Soo Chun, Mng. Dir., Moil Commercial Co., CPO Box 6088, Seoul 100. Cable WOOLDATE, Seoul; tel 22-2341.

3354115—PERU — Aluminum bars 6⅛" in dia. & 120" in length, homogenized, alloy 60-63, American standard. Requests c.&f. Callao quotations for monthly delivery of 100 MT aluminum bars. Quotations must state time of delivery, shipment port, & type of vessel & flag. Estab. & capably managed agent/distr., deals in hardware, materials handling equip., industrial equip. & materials, & general merchandise. Reportedly firm is doing well. Reply to Carlos Reategui, Mng. Dir., Alberto Velaochaga S.A., P.O. Box 1739-1, Azangaro 232, Lima 100. Cable ALVELSA; tel 27-2241.

Heating appar., plumbing fixtures

3433411, 3433413, 3433415, 3433417—ISRAEL—Domestic heating stoves, gas, vented & unvented circulars. Domestic stoves, gas, radiants. All other gas domestic heating stoves. Excl. agency. Requests replies from mfrs. only. Requests quotations f.o.b. ex-factory. Payments against L/C. Estab. 1951. Fully-owned subsidiary of PEC Israel Economic Corp. Agent & distr. & licensee of GE Co. Also operates as engineering consultant. Employs 42. Reply to—Isaac Mucznik, Commercial Mgr., General Engineers Ltd., P.O. Box 557, Hamada St., Herzlia B, Israel. Cable GERENGINES; telex 341908 GREE; tel 03-937691.

Special industrial machinery

3551349 — PERU — Sugar plant machinery, incl. cane mill crushers, pulverizers, crystallizers, granulators, etc. Very large importer/distr. of industrial machinery & equip., has represented U.S. firms for many years. Indicates that it has developed close business relationship with CECOAAP, central management organization of local sugar cooperatives, & that it is in position to sell most complete range of sugar mill equip. Requests replies ASAP to—Ing. Juan Luis Laghi, Dir., Wiese Representacions, S.A., P.O. Box 2793, Jiron A. Miro Quesada 250, Lima 1. Cable WEISE, Lima; tel 27-6600. Co. ref. JLL:Director 8/6/76.

3555125—PERU—Rotary offset printing machinery & related equipment. Well-known agent/distr. of textile equip. Also has experience selling paper & printing machines. Covers all Peru. Very interested in contacting mfrs. of above for representation. Reply to—Roberto Doehler, Gen. Mgr., Textilco Tecnico Comercial S.A., P.O. Box 858, Lima 100. Cable TEXTILCO; telex 25202PU MIRAF; Tel 47-4339.

3559589—UNITED KINGDOM—Process machinery & equip. for conversion of waste products into animal feed. Interested in developing all products and processes for animal feed industry. Mfrs. liquid feed & mineral supplements, also feed blocks & preservative for hay & silage crops. Estab. 1960, 210 employees, 80 salesmen. Parent holding co. is Bath & Portland Group Ltd., large holding co. of 20 firms engaged in various activities. Reply to—K. G. Clark, Mng. Dir., Feed Service (Livestock) Ltd., Hartham, Corsham, Wiltshire SN 13 OQB, U.K. Tel 0249-712051; telex 44642.

3559589—BOLIVIA — Leather working machinery for cutting & sewing belts. Reply to—Josue L. Jimenez, Casilla 161, Oruro.

General industrial machinery

3563189—PAKISTAN—Compressors, 30 cfm to 700 cfm, pressure 100 p.s.i. to 200 p.s.i. Small co., wishes import on its own account for resale & on agencyship. Has branch offices with showroom & service facilities at Lahore, Lyallpur, Multan & Rawalpindi. Recommended for trade con-

tacts on secured basis. Reply to Nazir Ahmad, Mng. Dir., Nara Intl. Ltd., Asif Chambers, 14-A Davis Rd., Lahore. Cable NARAINT; tel 67961.

Household appliances

3634369, 3634398—UNITED KINGDOM—Electrical appliances, tailor, boudoir; electrical appliances suitable for clothes care, etc. Mfrs. wellknown electrically-heated trouser presses for domestic use sold by dept. stores & men's wear retailers. Exports worldwide. Interested in future arrangements to mfr. under license, joint venture, partnership, etc. Reply to—Brian Gore, Marketing Dir., John Corby Ltd., 28-32 Frances Rd., Windsor, UK SL 4 3AD. Tel Windsor 60404/5/6; Cable CORBYPRESS London.

Communications equipment

3662681 — SWEDEN — Radio-controlled garage door openers—coded systems, if possible. Magnussen estab. this small firm in 1975. He is described by local credit sources as efficient & reliable businessman with sound finances. Recommended trade contact. Since firm very recently founded, however, normal business precautions should be observed. Reply to—Mr. Tor Magnussen, Scanflex, Box 262, S-183 23 Taby. Cable SCANFLEXMED; tel 08/758 88 85.

3662681 — ITALY — Electronic games. Excl. distr. Prospect is large, well-estab. (1950) firm acting as intermediary for third-party companies. Employs 80, has branch offices in Brescia, Milan & Rome. Annual turnover approx. $35 million. Opportunity initiated by General Systems on behalf of another local co. mfg. electric household appliances & wishing diversify product range. Contact—Genesio Rossi, Export-Import Mgr., General Systems, S.P.A., Via San Pio V 27, 10125 Torino. Tel 655 637.

Electrical machinery, equipment, supplies

3693082, 3693092, 3693094 — NETHERLANDS—Diathermy equip.; electrocardiographs; electroencephalographs Medium-size importer of medical equip. Estab. 1952, employs 31. Fully-owned subsidiary under same management, Boviropa B.V., sales area of which partly overlaps Copharm's, but more technically oriented. Represents many foreign firms, including 6 U.S. Bank ref: Algemene Bank Nederland, Amsterdam. Reply to—P. C. Versloot, Mgr., C. Copharm B. V., Rijksstraatweg 39, Baambrugge. Tel 02949-1555. Co. ref: Mobilizer Co., New York.

Measuring & controlling devices

3824373—PORTUGAL — Parking meters. Excl. agency/distr. Local importer & agent distributor of traffic control equip. & mfr. renter of containers. According to local trade sources firm has good marketing capacity. Banking refs report firm meets obligations promptly. Reply to Luis Manuel Franca, Technical Dir., Corpico-Comercio de Representacoes, SARL, R. Passos Manuel 102-1 Esq., Lisbon 1. Telex 13356 CORPICO; tel 530771. Co. ref—21/TT-AB.

3829407 — NETHERLANDS — Medical & biological counting systems for in vivo counting. Medium-size importer of medical & surgical instruments. Estab. 1854, employs 80. Annual sales volume FL 6,000,000. Has 2 fully-owned affiliates, both active in field of nursing articles & hospital textiles. Represents several U.S., U.K., & German companies. Bank ref: Indover, Amsterdam. Reply to—B. Soesman, Mgr., Franken & Itallie BV, P.O. Box 869, Oude Schans 56-60, Amsterdam. Tel 020 62157.

3825227 — BOLIVIA — Domestic power measuring apparatus; 110/220 volts, 50 cycles. Reply to:—Sics Ltda., Casilla 8637, La Paz.

3825297, 3825363, 3825365—AUSTRALIA—XY recorders; oscillographic recorders—pen or stylus type; oscillographic recorders—light beam type. Annual sales potential $60,000. Experienced & reliable importer/distr. of electronic test & measuring equip., microwave components & military systems & equip. Estab. 1950, employs 7, has working capital $91,000 & annual sales volume $78,000. Represents numerous U.S. firms on agency basis. Reply to—M. J. Russell, Mgr., Ronald J. T. Payne, 385-387 Bridge Rd., Richmond, VIC 3121. Cable PAYNECO; telephone 03-42-1416.

Optical instruments, lenses

3832139—BELGIUM—Measuring instruments with optical features. Excl. rep. Sells in Benelux, cemented carbide indexable inserts, toolholders & milling cutters mfrd. by its Swedish parent co., Seco Tools A.B. Seeks complete current sales range with technically advanced products of interest to metalworking industry. Reply to—Robert Boaune, Gen. Mgr., Seco Tools Benelux S.A., Chaussee de Nivelles 28/30, 1420 Braine L'Alleud. Telex 23.392; tel 834.80.25.

Surgical, med., dental instruments

3842371—BELGIUM—Personal safety devices. Excl. agency. Wells is American businessman & claims connections with European sales organization with 30 salesmen. Interested in new electric, electronic & mechanical devices for consumers in fields of burglar alarms & other security items, health care items, & beauty care items. Reply to Paul F. Wells, Gen. Mgr., Distriwell S.A., Ave. Louise 486, B-1050 Brussels. Tel 02/647.33.95.

3842371—NORWAY—Life saving vests, for workers on oil rigs, water skiers and for use on small pleasure boats. Small energetic firm recently estab. by Terje Halvorsen, for several years employed in offshore trade, specializing in safety equip. Write, phone or telex—Terje W. Halvorsen, Manager, Ocean Light, POB 1007 L, 4301 Sandnes. Phone: 045-65429, telex 33187. Exclus. agent or distrib.

3842331, 3842371—UNITED KINGDOM—Safety products, especially ear protection. Acts as importer & distr. of safety equip., ear protection products, & shooting & fishing accessories. Represents one U.S. firm for ear protection devices & interested in other lines. Reply to—M. E. Dunning, R. W. Sutton (Consultants) Ltd., The Safety Centre, 93 Albion St., Cheltenham, GL52 2SD. Telephone 0242-25811.

Future Construction Abroad

ALGERIA—The state metal fabrication company, SN METAL (38 Rue Didouche Mourad, B.P. 208 Alger-Gare, Algiers; cable: DP METAL ALGER; telex: 52889), is seeking bids from companies capable of providing turnkey construction of a **plant to produce the following equipment each year: 150 jaw crushers, 180 gyratory crushers, and 30 hammer mills.** Offers must be submitted in French with metric specs by March 25, and include civil works, engineering, training of personnel, technical assistance, after sale service, and references describing experience in similar plants. Copy of tender document (in French) is available for review in office of Ms. Cherie Loustaunau, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-4441.

MOROCCO — Les Ateliers Marocains, S.A., Km. 4 Route de Casablanca, B.P. 31, Rabat (Telex: 31627 M; Telephone: 22504 or 25510) is seeking qualified U.S. firms for complete supply and installation of **factory for production of leaf springs for trucks and buses.** To include heat treating and metal processing equipment for production of 1,000 tons per year of springs. For additional information contact Pete Zantal, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-4441. OPIC.

EGYPT—General Authority for Roads and Waterways, Ministry of Transport and Communications, Kasr-el-Eini St., Cairo, is seeking qualified contractors for construction of **Beni-Suef Bridge** in upper Egypt over Nile River. Tender documents can be obtained from above address for 200 L.E.($500). Please send copy of initial correspondence to Pete Zantal, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230 (202-377-4441), so that he may keep you informed of further developments on this project. Closing date for submittal of proposals is March 24. OPIC.

ALGERIA—Government is seeking qualified contractors for turnkey construction of **industrial carpentry plant.** Tender documents are available for 800 DA ($193.36) from: DNC/ANP, Delegation Industrielle, Division Approvisionnement, Route de Dar el Beida, Sisi-Moussa, Blida. Offer must remain valid three months past bid deadline and all correspondence must be in French and all specs metric. For additional information contact Pete Zantal, 202-377-4441. In addition, please send copy of initial correspondence to Zantal.

ALGERIA — Secretariat D'Etat al Hydraulique (Ex Grand Seminaire), Kouba, Algiers (Cable: SECRETHY ALGER; Telex: 52981) is seeking qualified firms for **following projects.** I) Construction of following **dams:** Guenitra on Fessad Oued at Skikda; Quizert on Sahouat Oued at Mascara; Bou Roumi on Bou Roumi Oued at Blida; Sidi-Abdelli on Isser Oued at Tlemcen; and Lekhal on Lekhal Oued at Bouira. II) Geological and feasibility study for construction of 50 **dams.** III) Construction and equipping of **irrigation systems** in following regions: Mitidja (7,000 hectares); Chelif (40,000 hectares); Mina (30,000 hectares); Ksob (surface area unknown), and Arib on Chelif River (surface area unkown). IV) **Preparation for cultivation** of area of unknown size in Hamiz region of Algiers Province. V) **Preparation for cultivation** of area in Habra region of Mascara Province. VI) Construction of **network for supply of drinking water** for city of Annaba. No

tender documents have been issued for these projects and Secretariat D'Etat al Hydraulique states that no further information available now. Interested U.S. firms write, soon as possible, to above address expressing intention to submit offers and describing past experience on similar projects. All correspondence must be in French and all specs metric. Please send copy of initial correspondence to Pete Zantal, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-4441.

UNITED ARAB EMIRATES — Although tenders have already been solicited for first phase of Al-Ain water system expansion, tenders for several more **water and sewage projects** with total value of about $200 million will be solicited in 1977. These are: (A) Project WE 5 (see following item) —Construction of reinforced concrete water reservoirs, piping, and metering. (B) Project M-3 for sewage—drainage of Al-Ain Military Camp and town center using vitrified clay pipe, and construction of temporary treatment lagoon system with ozonation and oxygenation. (C) Project M-4 for sewage—construction of 12 kilometers of 900 mm fiberglass trunk line, pumping station, and twin mains to new sewage treatment plant, and construction of permanent sewage treatment plant. (D) Project M-5 for sewage—construction of drainage network for rest of Al-Ain using vitrified clay pipe, and 15 pumping stations. Additional information may be obtained from the consultant: David Young, Manager, D. Balfour and Sons, P.O. Box 1419, Al-Ain, Abu Dhabi. For information on approximate timing of tenders and estimated value of each project contact: Pete Zantal, 202-377-4441.

UNITED ARAB EMIRATES—Water & Electricity Department, Abu Dhabi, invites tenders from experienced contractors for **Al-Ain Water Distribution Contract WE5, Reservoirs and Pumping Stations** (Tender No. WED/W-59/76). Project comprises construction of four 45,450 cubic meter capacity reinforced concrete storage reservoirs; three large pumping stations and other auxiliary buildings; supplying and laying of about 2,600 meters of 600/900 mm ductible iron pipes; supplying and installation of pumping plants of up to 380 liters per second capacity each, chlorination equipment, standby generators, electrical controls, etc.; and other appurtenant works including all pipeworks. Tenderers required to submit, along with request for tender documents, details of concrete reservoirs constructed by them in last 10 years. Prospective tenderers should apply for tender documents by letter or telex to Water & Electricity Department, POB 219, Abu Dhabi (telex: MAKAHRBA AH 2369), providing name and address of Abu Dhabi partner or agent authorized to purchase documents. Bid deadline March 23. For further information contact: Joe Lill, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-4441.

TUNISIA—Societe Tunisienne de Banque (STB) is seeking, on behalf of its client, Ciment Amiante Tunisi, company to provide **asbestos cement pipe factory.** Factory must have capacity to produce 20,000 tons per year of pipe 5 meters in length and 80 to 1,000 mm in width. Offers should be made (in French) as soon as possible to: Direction des Etudes et du Development, STB, One Avenue Habib Thameur, Tunis, and include engineering, supply and installation, and technical assistance. Project will be financed by STB, but additional financing will be considered. Please send copy of covering letter to: Ms. Cherie Loustaunau, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-4441. OPIC.

THAILAND—Oil and Fuel Organization (OFO), a state enterprise under Ministry of Defense, plans to invest $750,000 to establish **lube oil blending plant.** This plant, with capacity of 1.1 million liters per month, will produce several types of single-grade lubricating oil from imported base oil for use by Ministry of Defense and for sale to public at OFO's gas stations through Thailand. According to OFO, future expansion may include production of multi-grade oil. Plant will be located near OFO's tank farm at Prakanong on Chao Phya River, approx. 20 kilometers downstream from Bangkok. Project is under consideration by Natural Economic and Social Development Board and is expected to be passed on to Cabinet for approval within next several months. OFO is considering calling for turnkey bids for design, construction and equipment supply. Interested firms may write for more information to: Col. Chaicharn Nakthon, Dir., Oil & Fuel Organization, Lak Muang Rd., Bangkok. OPIC.

ECUADOR—Compania De Cervezas Nacionales C.A., P.O. Box 519, Guayaquil, one of only two breweries existing in Ecuador (the other is in Quito) has announced an expansion program which will include construction of an additional **plant for brewing several types of beer.** To be marketed in several types of containers. Annual production capacity to be 2 million hectoliters, almost double present capacity. Estimated cost of expansion is $27 million. No mention made of where equipment will be acquired, but brewery has already bought from Germany, at $3 million, equipment needed to operate malting plant with 1,500-metric ton daily production capacity.

PHILIPPINES—Interested U.S. suppliers may contact below-named government contacts regarding following World Bank-financed projects: **Irrigation (Jalaur Stage II). Multipurpose irrigation in Panay Island, Visayas:** Jose del Rosario, Chief, Project Development, National Irrigation Administration (NIA), P.O. Box 365, Quezon City, is preparing, with assistance of consultants, specifications for construction equipment. **Rural Development on Samar Island, Visayas:** Project Officer Alberto Reyes, Dept. of Public Works & Communications, NIA Bldg., E. delos Santos Ave., Quezon City, announced that terms of reference (guidelines of study) were completed in Sept. InterAgency Committee has approved project and study started full-scale in Nov. with projected completion date of Sept. 1977. Copies of preliminary report will be transmitted to World Bank by March. **Rural Infrastructure I:** Ely Batangantang, Dir., Agricultural Staff, National Economic Development Authority, Padre Faura, Manila, announced that approx. 80 percent of project preparation has been completed, including detailed cost estimates and analysis of benefits accruing to each project component. **Rural Electrification I:** Edmundo Bulatao, Dir. for Franchises and Acting Dir., Power Use of the National Electrification Administration (NEA), P.O. Box 113, Quezon City, stated that out of $80 million received from World Bank, $50 million has been disbursed for electrification of about 60 provinces. OPIC.

The Overseas Private Investment Corp. (OPIC) offers political risk insurance on assets and bank guaranties to U.S. construction and service firms planning to submit bids on projects in certain developing countries, identified by the "OPIC" notation at the end of some items. For further information on OPIC's contract insurance programs, write Construction Insurance Officer, Overseas Private Investment Corp., Washington, D.C. 20527. Tel: 202-632-7825.

THAILAND — Contractors interested in prequalifying for first stage of **Bangkok expressway system** should send details on their companies including latest balance sheet, relevant financial details, and a list of similar projects during last 10 years, by Feb. 21, to General Manager, Expressway and Rapid Transit Authority of Thailand, Phaholyothin Road, Bangkok 9. Three contracts for 8.9 kms. of two parallel, 3-lane, elevated expressways with interchanges and ancillary works from Din Daeng to Klong Toey, port area, will be tendered. OPIC.

JORDAN—Industrial Development Bank is presently executing feasibility studies for several **industrial projects.** Proposed production facilities are for plants to produce per year: 350,000 door locks; 10,000 cylinder and ordinary furniture locks; 1 million door hinges; 100,000 piano hinges; 2.5 million electric bulbs; 250,000 flourescent tubes; 3.5 million syringes; 1.5 million spark plugs; 600 tons plumbing fixtures; 400 tons galvanized wire mesh and netting; 10 million pencils; 300,000 automobile tire tubes; 2-3 million glass bottles; 10-15 tons paper clips. The Industrial Development Bank is eager to receive response from U.S. companies. For additional information, contact Pete Zantal, CAGNE/BIC, U.S. Department of Commerce, Washington, D.C., 20230; 202-377-4441. OPIC.

URUGUAY—A $38 million project for construction of **reservoir and acquisition of related equipment** to provide for Montevideo's future potable water needs is nearing approval. Concrete and earthen dam will be built at Paso Severino, on Santa Lucia River, 85 km from Montevideo. Reservoir to be formed will cover 1,500 hectares and hold over 70 million cubic meters of water. Construction to take 3 to 4 years. Dam will measure 710 meters in length, including earthen segments of 217 and 158m on each side. Greatest height will measure 38m. There will also be pumping station and pipeline to provide direct flow of water to plant. Equipment to expand pipeline, pumping and storage capacity will be needed. If IDB approves financing, bids could be called as early as mid-1977. Executing agency is Obras Sanitarias del Estado (OSE), an autonomous state agency. Believed that local construction firms capable of providing required services. International consulting firm selected by public bidding will assist in control and supervision. Interested consulting engineering firm must be registered with IDB, Professional Services Contractor Div. Local partners will probably not be requirement to bid. If you do not have local representative, contact nearest De-

partment of Commerce District Office. U.S. suppliers may wish to send catalogs and brochures to OSE to ensure that its technical office is aware of type and specifications of latest production. In addition, this information often taken into account when preparing public tenders or occasional direct purchase. Correspondence, preferably in Spanish, should be addressed to: Ing. Nicolas Golouvintseff, Presidente, Administracion Obras Sanitarias del Estado, Calle Soriano 1613, Montevideo. Consulting firms may also wish to write OSE directly, informing them of capabilities and interest. While IDB bidding procedure will be complied with, expressions of interest at this early date will help to assure notification when bids are called.

Visiting Buyers & Officials

SINGAPORE—A. M. Tan, Gen. Mgr., and Tommy Tan, Export Manager of WYWY Provate Ltd., plan to visit New York this month to attend the International Toy Show. In addition to **toys**, these buyers are interested in acquiring **wood processing equipment and undergarments.** They would like to meet with U.S. suppliers in New York Feb. 16-18. American firms interested in meeting these buyers contact Bill Corfitzen, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2068.

JAPAN—Twenty-five owners of retail bread and pastry shops in Kyushu will visit the United States to study the U.S. **bakery industry.** The trade publication "Baker's Times" is sponsoring a group visit to the Associated Retail Bakers of America Show in Dallas March 28. The group is made up of owners of retail outlets for Ikeda Bakery, second largest bakery in Kyushu. Ikeda sells its products through an extensive network of franchised neighborhood bread stores that also sell cakes, pastries, cookies, snack foods and soft drinks. Company is studying possibility of starting in-store bakery type operation in its larger outlets if a system can be adapted. Those interested in meeting this group in Los Angeles or San Francisco contact Bill Corfitzen, 202-377-2068.

ZAMBIA—**M. G. Shah, Mng. Dir. of TOP's** Trading Co. Ltd., Chingola, will visit the United States to purchase **machinery to manufacture linoleum, blankets, and ladies underwear.** Company has ten years experience as distribution and wholesale firm in Zambia, now wants to manufacture above items. Contact Bill Corfitzen, 202-377-2068.

COSTA RICA—Businessman wishes to increase the number of American products that he now represents. He is currently the owner-manager of two firms, and wants to represent specialized **refrigeration equipment** (such as supermarket freezers). Also wishes to diversify his product lines by carrying **general equipment and supplies for hotels, restaurants, hospitals and supermarkets** (such as shopping carts and institutional cooking equipment). Contact Peter B. Alois, Foreign Buyer Program, U.S. Department of Commerce, Room 2322, Washington, D.C. 20230; 202-377-3265.

JAPAN—Morio Ninagawa, Exec. Dir., Osaka Soshoko Company Ltd., will visit New Orleans, Dallas, Los Angeles, New York and Chicago in March to buy **home furnishings and do-it-yourself builder's materials for home improvement.** This company wholesales interior furnishings, floor and wall coverings, and other furnishings, and specializes in interior decoration of homes and offices. Plans to branch into home improvement business and/or to open a franchise for renovation of homes. Employs 50, is capitalized at $80,000, and annual sales amount to U.S. $7 million. Contact Bill Corfitzen, 202-377-2068.

PAKISTAN—Saeed Ahmad Malli, Mgr. Dir., Malli Brothers, Ltd., Gujranwala, is visiting the United States to purchase a complete **reconditioned rotary printing unit,** width 66-108 inch, capable of multicolor, up to eight-color, printing on silk and polyester fabrics. Contact Bill Corfitzen, 202-377-2068.

NIGERIA—T. P. Ogunmakinwa seeks contact with companies interested in license or distribution agreements for **electrical and construction materials** used for new buildings, houses and hospitals. Send all information directly to T. P. Ogunmakinwa, Giroe Agencies, 318 Herbert MaCaulay St., Yaba, Lagos.

SWEDEN—Businessman visiting U.S. in April would like to contact firms that could help in improving efficiency in his **EDP operation.** Contact Jim Nader, U.S. Department of Commerce, Foreign Buyer Program, Room 2322, Washington, D.C. 20230; 202-377-3265.

LIBYA—Businessman seeks contact with manufacturers of **petroleum and chemical laboratories.** Contact Jim Nader, 202-377-3265.

NORWAY—Businessman seeks information from manufacturers of **refrigeration plants, reliquefaction plants for LPG ships and heat exchangers,** for possible licensing agreements. Contact Jim Nader, U.S. Department of Commerce, Foreign Buyer Program, Room 2322, Washington, D.C. 20230; 202-377-3265.

SWITZERLAND—Businessman visiting U.S. seeks contact with companies interested in exporting the following items: **electronics production and test equipment for printed circuit and integrated circuits, thick and thin film techniques, and automatic component insertion machines for printed circuits.** Also interested in representing U.S. manufacturers of **oil field equipment, pumps and drilling equipment.** Interest further extends to representation of U.S. producers of **oil and lubricant additives** in Switzerland and Europe. Contact Jim Nader, 202-377-3265.

NIGERIA—A businessman will be visiting the United States in April. He has recently purchased 20 acres of land for a manufacturing plant of **aggregate and cement/concrete blocks.** It is possible that the facility will also produce **flagstone, ceramic tiles and other earth/stone-based construction trimmings.** He is well organized, has good local contacts, and appears to be highly reliable. For further details, contact Peter B. Alois, Foreign Buyer Program, U.S. Department of Commerce, Room 2322, Washington, D.C. 20230; 202-377-3265.

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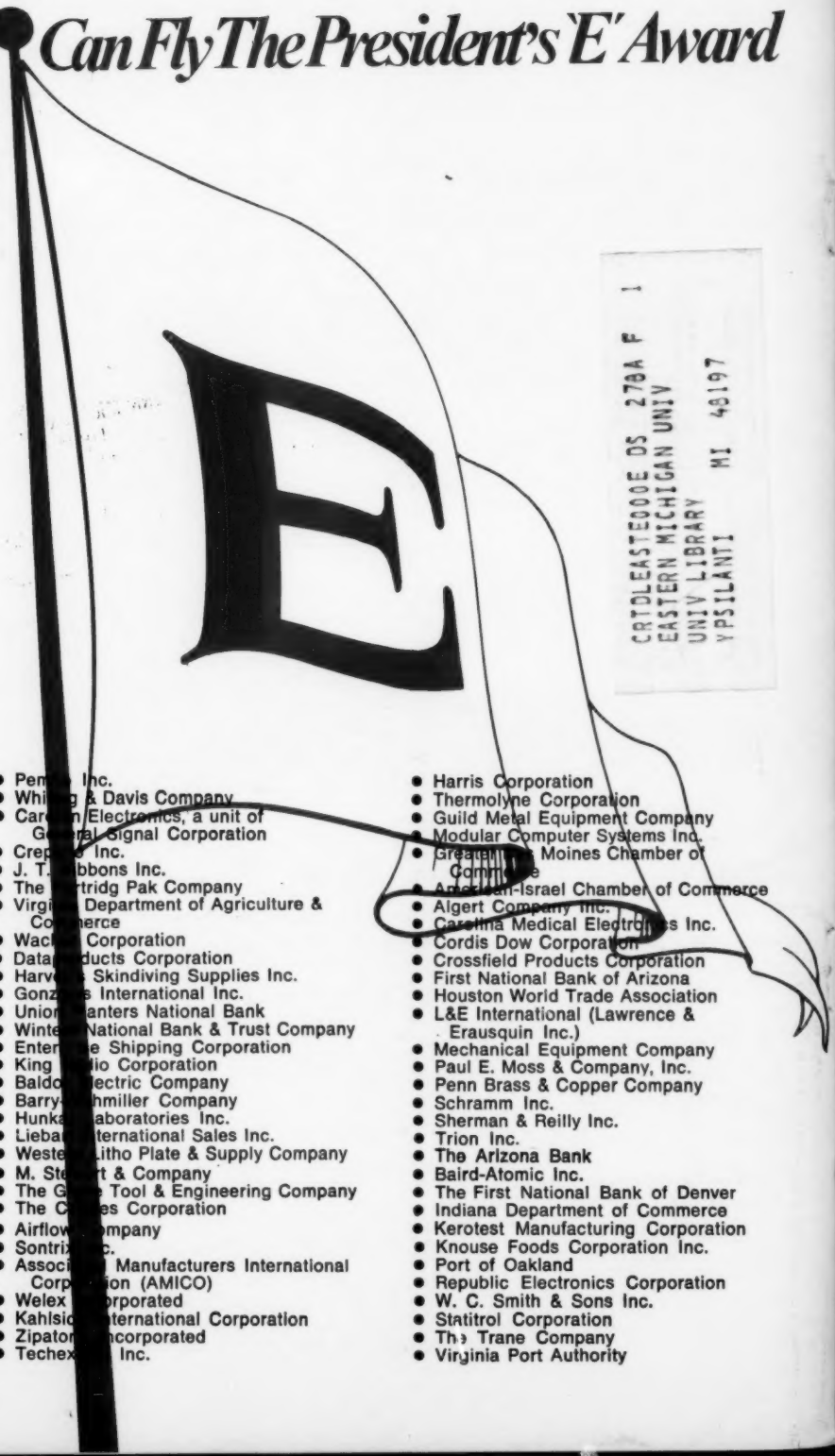

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